

IMPERIAL BUREAU OF HORTICULTURE | AND PLANTATION CROPS

HORTICULTURAL ABSTRACTS

Issued quarterly by the Imperial Bureau of Horticulture and Plantation Crops, East Malling, Kent, England. Price 25/- a volume of four numbers, single copies 6/6. Concession price to subscribers in Great Britain and other countries of the British Commonwealth of Nations 20/- a volume, single copies 5/-.

IMPERIAL AGRICULTURAL BUREAUX

EXECUTIVE COUNCIL,
2 Queen Anne's Gate Buildings, London, S.W.1.

IMPERIAL BUREAU OF SOIL SCIENCE, Rothamsted Experimental Station, Harpenden, Herts.

IMPERIAL BUREAU OF ANIMAL NUTRITION,
The Reid Library, Rowett Institute, Bucksburn, Aberdeen.

IMPERIAL BUREAU OF ANIMAL HEALTH, Veterinary Laboratory, New Haw, Weybridge, Surrey.

IMPERIAL BUREAU OF ANIMAL BREEDING AND GENETICS, King's Buildings, University of Edinburgh, Scotland.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS, School of Agriculture, Cambridge.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS, Agricultural Buildings, Alexandra Road, Aberystwyth.

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS, East Malling Research Station, East Malling, Kent.

IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY (HELMINTHOLOGY), Winches Farm, Hatfield Road, St. Albans, Herts.

IMPERIAL FORESTRY BUREAU, Imperial Forestry Institute, 39 Museum Road, Oxford.

IMPERIAL BUREAU OF DAIRY SCIENCE, National Institute for Research in Dairying, Shinfield, Reading.

STAFF OF THE IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS.

Director R. G. HATTON, C.B.E., M.A., D.Sc.
Deputy Director D. Akenhead, M.A., B.Sc.
Assistant G. St. Clair Feilden, B.A.

HORTICULTURAL ABSTRACTS

VOLUME IX

Part 1 Issued March, 1939

Part 2 ,, June, 1939

Part 3 " September, 1939

Part 4 " December, 1939

Compiled and published by the

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS,

EAST MALLING, KENT, ENGLAND

Horticultural Abstracts, Vol. IX

Abbott, O. D., 1461 van den Abeele, 261 Acerete, A., 571 Acworth, R. W. H., 932 Adam, D. B., 852 Adam, W. B., 1491, 1492, 1493 Adams, R. L., 750 Addicott, F. T., (1121) Adelaide, Department of Agriculture, 662 Adriaens, L., 1026 Ainsworth, G. C., 913, 1276 Akhurst, C. G., 274 Alben, A. O., 842 Aldrich, W. W., 1039, 1175 Alexander, T. R., 363 Alexandrov, A. D., 207, 570 Alibert, H., 286 Allan, J. M., 166 Allard, H. A., 743 Allen, C. E., 308 Altstatt, G. E., 1294 Amani, 1518, 1519 Amlong, H. U., 3, 4, 1113 Anagnostopoulos, P. T., 1176, 1330, 1366 Anantha Rao, N. K., 397 Andersen, E. M., 912 Anderssen, F. G., 572 Angell, H. R., 166 Anliker, J., 58
Anon, 221, 237, 255, 272, 412, 483, 493, 499, 534, 538, 598, 611, 659, 667, 780, 809, (866), 892, 974, 975, 1055, 1306 Anufriev, M. F., 1392 A.P., 620 Appert, M., 1043 Arenz, B., 1310 Argles, G. K., 568 Arizona, 1520 Arizona, 1920 Ark, P. A., (893), 1225 Arkell, H. S., 135 Arnot, F. R., 1326 Arnon, D.I., 742, (1133) Ashby, E., 682 Ashby, H., 682 Askew, H. I., 565 Askew, H. L., 565 Askew, H. O., 92, 1217 A.S.L.I.B., 1521 Assam, (1544) Astor, Viscount, 342 Atkinson, J. D., 93, 761 Atkinson, M., 634 Aubert, P., 459 Aubréville, A., 1037 Austin, M. D., 484, 505, 543, 905 Australia, C.S.I.R., 691 Avery, G. S., 1119

v.B., 331 van Baalen, J., 273

Babaleanu, P., 61 Babaleanu, P., 61 Bacher, T., 921 Badachkoria, P. G., 1338 Badami, V. K., 1024 Bagenal, N. B., 1511 Bailey, C. R., 931 Bailey, S. F., 869 Baker, R. E. D., 581, 1040 Bakhtadze, K. E., 619 Balch, R. E., (1260) Balks, R., 1139 Balks, K., 1100 Balme, J., 795 Bamford, R., (587) Bane, W. A., 434 Baptist, E. D. C., 1421, 1425 Barbier, G., 1279 Barker, B. T. P., 1078 Barnard, C., 84, 85 Barnell, E., 1430
Barnell, H. R., 1062
Bärner, J., 682
Barnes, H., 1190
Barthelet, J., 755 Barthelet, J., 765
Bartholomew, E. T., 1353
Barton, L. V., 382, 1261, 1314
Basinger, A. J., 208
Basutoland, (1544)
Batchelor, L. D., 968
de la Bâthie, H. P., 1034
Barr, K. 1290 Baur, K., 1229 Bausor, S. C., 1109 Bawden, F. C., 95 Beakbane, A. B., 420, 440, 784, (830)Beattie, J. H., 615, 902 Beaumont, A., 1321, 1322 Beaumont, J. H., 125, 1021 Beckenbach, J. R., 1278 Becker, A., 1126 Becker, J., 67, 1318 Becker, R. B., 1507 Becker, W. B., 117 Beckett, R. E., 217 Beckley, V. A., 610 Bedford, C. L., 666 Beeley, F., 1425 Belokhonov, I. V., 42 Ben-amotz, Y., 124, 582, 1352 Benemerito, A. N., 962 Benjamin, M. S., 1357 Bennett, J. P., 430 Bennett, W. J., 319 Benton, R. J., 1335 Benvegnin, L., 674 Berezova, E. F., 20 Berkeley, G. H., 443 Bermuda, 1522 Berry, W. E., 782, 886 Bertaud-Rossi (Mme), 879 Bertrand, H. W. R., 636 Best, R. J., 1297 Bewley, W. F., 1285 Beyers, E., 1464, 1481

Biale, J. B., 970 Bioletti, F. T., 78 Birch, H. F., 1504 Birkinshaw, F., 299 Blaauw, A. H., 185 Black, M. A., 172 Black, M. A., 172 Blackman, G. E., 503 Blackmon, G. H., (1184) Blair, D. S., 50, 407, 443 Blake, M. A., 1178 Blangstedgaard, 69 Blattný, C., 6 Bliss, D. E., 292, 293 Bloch, R., 367 Bobb, A. C., 1178 Bobko, E. V., 746 Bode, H. R., 452, 465 Bodenheimer, F. S., 563 Bolas, B. D., 524, 1287 Bolhuis, G. G., 1049 Bolin, D. W., 1082 Bondar, G., 253 Bonner, D. M., (1121) Bonner, J., 368, 372, 1114 Borden, A. D., 120 Boresch, K., 94 Borisoglebsky, A. D., 28 Börner, C., 1240 Borovik, S., (754) Borovik-Romanova, T., (754) Borst, G., 992 Borthwick, H. A., (1125) Boschini, G., 1144, 1145 Boshart, K., 1280 Bosher, J. E., 183 Bosian, G., 512 Bosma, B., 442, 1237 Boswell, V. R., 615, 902 Böttcher, F. K., 127 Bou Bono, 966 Bou Bono, 966
Boucher, J., 548
Bould, C., 1320
Boulle, M., 1288
Bourne, J. B., 22
Bovey, P., 1236, 1245
Bowden, R. A., 365
Boyce, A. M., 215, (1355)
Boyes, W. W., 1449, 1455,
1457, 1466, 1467, 1468,
1469, 1473
Boynton, D., 422, 820, 821 Boynton, D., 422, 820, 821 Bradford, F. C., 1154, 1510 Brain, C. K., 720 Bramstedt, F., 1240 Brand, R., 665 Brandon, D., 1316 Brandonisio, V., 593 Brannon, L. W., 614 Brase, K. D., 45, 787, 808 Bratley, C. O., 660, 1218 Braun, E., 24 Braverman, J. S., 1328 Bravi, S., 1329

Bredo, H. J., 1403 Breider, H., 110 Bremer, A. H., 1265 Brenner, M. W., 648 Breviglieri, N., 837, (893), 916 Brierley, W. B., 727 Brindley, T. A., 158 British Guiana (726) British Guiana, (726) British Honduras, (726), 1523 British Somaliland, (726) British West Indies, St. Vincent, 721 Brody, H. W., 882

von Bronsart, H., 388 Brooks, A. N., 828 Brooks, F. A., 1344 Brooks, F. T., 949 Brown, A. G., 426 Brown, H. P., 1222 Brown, W. T., 18 Broyer, T. C., (369), 386 Brubaker, R. W., (547) Brunstetter, B. C., 1118 Brunstetter, B. C., 1118
Brzhezitsky, M. B., (1377)
Buchanan, R. E., 705
Buckley, T. A., 334
Bucksteeg, W., 1252
Budagovsky, V. I., 416
Buddin, W., 558, 1321
Burgess, A. F., (506) Burma, (726)
Burms, M. M., 201, 982
Burret, M., 1434
Burrier, A. S., 86 Byers, H. G., 26 Bystrov, A. A., 899

Caldwell, J. S., 616 Caldwell, N. E. H., 298 California, Agricultural Experiment Station, 1524 Calinisan, M. R., 1009, 1388 Calvino, E. M., 601, 734 Calvino, M., 282, 1325 Cameron, S. H., 992 Camp, A. F., 575, 976, 1341 Campbell, J. A., 171 Canada, Department of Agriculture, 21, 135, 688, (689), 1525 Capt, E., 673, 674 Capucci, C., 81 Cardinell, H. A., 1154, 1156 Carnegie Institute of Washington, 690 Ington, 690
Carolus, R. L., 1191
Carrante, V., 977, 978
Carter, W., 1235, 1440
C.A.S.B., (27), (128), (136), (325)
Cassil, C. C., 125
Castelli, E., 1372
Castorina, S., 1498
Casupang, O. M., 1012
Cauthrot, 1598

Cawthron, 1526 Celichowski, K., 1135 Celino, M. S., 1010 Ceylon, Coconut

Scheme, 1528, 1529, (1544)

Cevlon, Department of Agriculture, 1002, 1003, 1299, (1384), 1527 Chaboussou, F., 1241 Chadwick, L. C., (1121) Chailakhyan, M.Kh., 7, 8, 9, 10, 13 Chamberlain, F. S., (547) Chamberlain, G. C., 96 Chaminade, R., 548 Chapman, P. J., 1243 Charley, N. G., 256 Charley, V. L. S., 687, 1075, 1076, 1077, 1078, 1484, 1487

Cheal, W. F., 824 Cheesman, E. E., 1008 Chevalier, A., 227, 248, 1022, 1050 Child, A. M., 665 Childers, N. F., 882

Chisholm, J. S., 546 Chittenden, E., 92 Chizhov, S. T., (1513) Choppin de Janvry, J., 192 Chouard, P., 728, 729, 730, 731, 733, 738, 944, 945, 946 Christoff, A., 477

Christopher, E. P., 1303 Chugunin, Ya. V., 111, 683 Chulkin, V., 605 Clark, H., 447 Clark, H. E., 1061

Clark, W. G., (369) Clarke, S. H., 377 Clayton, E. E., 537, 540

Clothier, G. E., 847 Cockerham, K. L., (547) Cocoa Research Station, Tafo, Gold Coast, 699

Coconut Research Scheme, Ceylon, 1528, 1529, (1544)

Cole, W. R., 1057 Commissioner of Agriculture,

I.C.T.A. Trinidad, (1544) Compton, C. C., 545 Cooper, H. R., 1019 Cooper, J. R., 1201 Cooper, T. P., 785

Cope, F. W., 1406, 1407, 1408 Corbett, G. H., 235

Corbett, W., 552 Cornford, C. E., 87, 88, 457, 458

Costa Rica, 1530 County Armagh Committee of Agriculture, 1531

La Cour, L., 378 Cowart, E. F., 799 Cox, J. A., 485, 1239 Crafts, A. S., 386, 747, 1103, 1254

Crandall, F. K., 1277 Crane, H. L., 844 Crane, M. B., 426, 1150, 1151 Creighton, H. B., 1119

Crocker, W., 374, 381 Crosier, W., (938) Croucher, H. H., 1005 Croxall, H. E., 864, 895 Cruess, W. V., (1497) C.S.I.R., Australia, 691 Cullinan, F. P., 817 Culpepper, C. W., 612, 616 Currence, T. M., (893) Curtis, D. S., 149 Curtis, O. F., 462 Cyprus, Department of Agriculture, 209, (726)

Dahle, H. E., 264 van Dalfsen, J. W., 333 Darrow, G. M., 825, 826 Date Growers, 692 David, P. M., 1387
Davidis, G., 258
Davidso, W. D., 507
Davies, C., 502 Davies, D. L. G., 936 Davies, R., 1455, 1457 Davis, M. B., 407, 443 Davis, W., 354 Dawson, R. B., 503 Dean, L. A., 1021 Dearness, J., 99 Deen, O. T., (547) DeFrance, J. A., (1121) DeGraff, H. F., 1071 Delaware, (726) DeLong, D. M., (173) Demortier, G., 1120, 1486 Dennett, J. H., 287 Dennis, A. C., 744 Dennis, R. W. G., 744 Denny, F. E., 557, 1102 Dent, O. W. R., 168 Dermanis, P., (139) Desaymard, P., 755, 760 Deuss, J. J. B., 246 Development Commission, Lond., 693 Develter, E., (1497) Devirian, P. S., (1121) Diakonoff, A., 1066 Dias, S. J. F., 1382 Dicker, G. H. L., 877 Dickey, R. D., 177, 224, 1194 Dickson, B. T., 47 Dickson, G. H., 70, 409

Dijkman, M. J., 263 Directie van den Landbouw (Holland), 878 Dirsh, V. M., 684 Dix Arnold, P. T., 1507

Dixon, J. K., 982 Djou, Y. W., 284 Dmitriev, A. K., 121 Doak, B. W., 1112 Dobrovitskaya, S. A., 918

Dodge, F. N., 840 Dom, C. A. W., 1405 Donen, I., 431 den Doop, J. E. A., 1390 Doran, W. L., 176

Dorner, H. B., 941
Dotti, F., 1177, 1202
Douglass, J., 152
Dowson, W. J., 550
Drboglav, Yu. A., 758
Dreyspring, C., 745
Drieberg, C., 1053
Driggers, B. F., (1260)
D.S.I.R., New Zealand, 761
duBuy, H. G., 1293
Dufournet, R., 1011
Duka, S., 40
Duncan, D. C., 23
Dunlap, A. A., (547)
Dupouy, L., 822
Durham County Council, 694
Dutch East Indies, 1532
Dwyer, R. E. P., 642
Dyck, A. W. J., 1422
Dylevsky, A. A., 758

Eaves, C. A., 654, 1056 Ebel, M., 990 Edinburgh and East of Scotland College of Agricul-

ture, 695
Edmundson, W. C., 1272
Edwards, D. W., 640
Edwards, W. D., 469
Efferson, J. N., 130, 914
Eggers, E. R., 599, 600
Eidelman, Z. M., 888
Eidt, C. C., 664, 681
Einset, O., 805, 812
Eisenmenger, W. S., 163
El Alaily, Y. A. S., 949
El-Helaly, A. F., 923, 924
Ellenwood, C. W., 65, 126
Ellis, H. M., (754)
Ellis, H. M., (754)
Ellis ann, E., 1230
Engard, C. J., 1185, 1186
English, J., 368
Esau, K., 468
Esbjerg, N., 307
Essig, E. O., 148, 156
Essolen, D. J., 1337
Evenari, M., 5
Evreinoff, V. A., 786
Ewert, —, 1088
Ezell, B. D., 1065
Ezio, E., 451

Faes, H., 448, 460, 709
Fairbank, H., 507
Fallscheer, H., 889
Fanelli, L., 1072
Farfel, R. L., 1132
Faure, J., 1146
Fawcett, G. L., 162
Fawcett, H. S., 979
Fedin, A.Kh., 205
Fellers, C. R., 1446
Fenner, K. P., 324
Fenton, F. A., (1260)
Ferguson, W., 140

Fernando, M., 617, 630, 653, 1478 1478
Ferrand, M., 260
Ferwerda, F. P., 983, 985
Feytaud, J., 1241, 1242
Ficht, G. A., (547)
Field, C. P., 420, 849
Fiji, (726), (1544)
Filewicz, W., 777
Finch, A. H., 833
Fisher, D. F., 1059, 1447
Fleckinger, J., 803
Flemion, F., 383
Filmt, L. H., 1274 Flint, L. H., 1274 Florida, 1533 de Fluiter, H. J., 279, 281, 1424 Forest Department, Latvia, 102 Forschungsdienst, 338 Forster, W. R., 99
Foster, W. R., 99
Fowler, E. D., 842
Fox, D. E., (173)
Frahm, E. D. G., (1084)
Franco, C. M., 1397
Francois, E., 243
Francois, E., 243 Fransen, J. J., 1095 Franssen, C. J. H., 987, 1431 Frazier, T. O., 650 Freeborn, S. B., 1524 Freedom, H. J., 645 Freitag, J. H., 147 Friedrich, G., 98, 1156 Frimmel, F., 133 Frischenschlager, B., 45, 60 Froggatt, J. L., 643 Frolov, T. V., 594 Frost, H. B., 194, 567 Fuchs, W. H., 1140 Fudge, B. R., 576, 1341, 1342 Furneaux, B. S., 930 Furr, J. R., 972 Fyler, H. M., 323

Gaines, J. G., 537
Galach'yan, R. M., 523
Gambia, The, (726), (1544)
Gandhi, S. R., 561
Gardner, F. E., (1121), 1436
Gardner, V. R., 774, 1510
Garner, R. J., 413, 414, 440, 775, 831
Garner, W. W., 385
Garver, H. L., 740
Gasparini, M., 916
Gehlsen, C. A., 1442
Geisenheim am Rhein, 697
Georgia, 698
Gerbaldi, C., 71, 1170
Gerhardt, F., 657, 1065
Gervais, P., 1199
Gethin-Jones, G. H., 625
van der Giessen, C., 1004
Gigante, R., (1324)
Gilbert, S. M., 1395
Gillespy, T. G., (1509)
Gillett, S., 624, 626
Gilmore, J. V., (547)

Gilyarov, M. S., 278 Giscard, R., 981 Glasscock, H. H., 933, (938) Glover, J., 239, 1389 Goia, G., 71 Gold Coast, Cocoa Research Station, Tafo, 699 Gomes, J. G., 1349 Gonsalves, A. D., 633 Goodall, D. W., 1287 Goodspeed, T. H., 379 Goodwin, R. H., (1121) Goodwin, W., 473 Goring, E. T., 31 Gorshkov, L. A., 305 Gosselin, A., 33 Gould, E., 125 Gould, H. P., 36, 417, 455, 638 Gould, H. P., 35, 417, 435, 6 Gould, L. A., 1505 Gourley, J. H., 34, 65, 435 Grace, N. H., 16 Gradinger, C. B., 610 Grainger, J., 1165 Grampoloff, A. V., 304 Grant, T. J., 1232 Green, D. E., 549 Green, E. C., 627 Green, E. C., 627 Greenhill, A. W., 898 Greenslade, R. M., 106, 872 Gregory, F. G., 396 Gregory, J. H., 1203 Greve, E. W., 438 Griffiths, A. E., 517 Grigsby, B. H., 856 Grim, J. H., 1175 Grossenbacher, K. A., (369) Groszmann, H. M., 1441 Grove, L. C., 956 Groves, K., 889 Grubb, N. H., 418, 419, 437 Gruber, F., (181) Gruner, V. S., 326 Grunnet, H. Ø., 38 Grzybowski, M., 942 Guba, E. F., 1300 Gumaer, P. W., 539 Gundry, B. G., 1508 Gunness, C. I., 1057 Gusev, P. P., 29 Güssov, H. T., 529 Gustafson, F. G., 384, 1110, 1332 Guthrie, J. D., 366 1117

Haagen-Smit, A. J., (1121) Haas, A. R. C., 1336 de Haas, P. G., 90, 1181 Haasis, F. A., 958 Hacquart, A., 238, 240 Hagan, J., 1531 Hall, E. R., 1164 Haller, M. H., 125 Halma, F. F., 599 Haly, D. E., (173) Ham, W. R., 23 Hamersma, P. J., 1060 Hammond, D. H., 775, 831

Hamner, K. C., 1123 Hampe, P., 1127, 1128 Hanf, M., 480 Hanf, M., 480
Hansen, J. W., (1355)
Hanson, A. J., 868
Harding, P. L., 1447
Hardisty, F. E., 365
Hardy, F., 1410, 1411
Hargrave, J., 1319
Harlan, J. D., 1308
Harley, C. P., 1213
Harris, P. L., 648
Harrison, A. L., (893), 1294
Harrison, T. H. J., 687
Harter, L. L., 159
Hartsema, A. M., 952, 954, 957
Hartzell, A., (506) Hartzell, A., (506) Harvey, E. M., 578 Harwood, L. W., 337 Hassebrauk, K., 138 Hastings, R. J., 183 Hatcher, E. S. J., 917 Hatton, R. G., 415 Havis, L., 34, 901 Hawaii, 1534 Heald, F. D., 663 Heath, O. V. S., (399) Hedges, F., 533 Heilborn, O., 1166 Heimsch, C., 1204 Heinicke, A. J., 881 Heintze, S. G., 528 Heisig, C. P., 765 Hellinger, E., 1032 Henniger, E., 1002 van der Helm, G. W., 544 Helson, G. A. H., 319, 875 Hendrickx, F. L., 1402 Henry, A. W., 171 Herbst, W., 364, 800, 801 Herrero, M., 571. Herrero, M., 571 Hesse, C. O., 804 Heubel, G. A., 273, 1419 Hewitt, W.B., 1223, 1231, 1370 Hexnerová, H., 735 Hey, G. L., 497 Heyrovský, J., (405) Hickman, C. J., 864, 895 Hildebrand, A. A., 107 Hildebrand, E. M., 887 Hilgeman, R. H., 655, 833 Hill, A. V., 166 Hillsborough, (1544) Hinchy, V. M., 242, 335 Hine, E., 1148 Hinman, F. G., 158 Hirst, F., 1491 Hitchcock, A. E., 356, 357, 358, 1100, 1101, 1105, 1107, (1121), 1122

Hoagland, D. R., 390, 742, 1138 Hock, C. W., 1119 Hockey, J. F., 489 Hodgson, L., 982 Hodgson, R. E., 1083 Hodgson, R. W., 600, 1364

Hoedt, Th. G. E., 1015

Hoffer, G. N., 387 Hofmeyr, J. D. J., 1371 Holland, Directie van den Landbouw, 878 Hollands, H. F., 1070 Holz, W., 1228 Hong Kong, (1544) Hooker, H. D., 1510 Hooper, C. H., 806 Hooper, P. D., 77 Hopkins, J. C. F., 165 Hopkins, R. H., 696, 861 Horner, G., 1494 Horsfall, F., 423, 461 Horsfall, J. G., 476, 525, (893) Horticultural Education Association, 350 Horton, D. E., 556 Hoskins, W. M., 124, 215 von Hösslin, R., 1267 Hotta, T., 1149 Houw, T. S., (1084) Howard, A., 199 Howard, H. W., 361 Howells, D. V., 823 Howlett, F. S., 919 Hrubý, K., (1184) Hriao, T. Y., (1260) Huber, G. A., 857, 1229 Huelin, F. E., 306 Huelsen, W. A., 1296, (1304) Hugo, F. C., 1196 Huitema, W. K., 231, 983, 985 Humfeld, H., 927 Humphries, E. C., 1500, 1501, 1502, 1503, 1504 Hunt, I. V., (405) Husfeld, B., 79, 110 Hutchinson, H. P., 752 Hutchison, C. B., 1524 Hutson, J. C., 1378, 1432 Hyatt, J. B., 1470 Hyde, W. C., 761 Hyre, R. A., 880 Imms, A. D., 1512 Imperial College of Tropical Agriculture, Trinidad, (726)Imperial Council of Agricultural Research, India, 702, 1535 Imperial Economic Committee London, 347, 348, 700, (701), 1091, 1092, 1516, 1517 India, Imperial Council of Agricultural Research, 702, 1535 Indian Tea Association, 703 Indore, (1544) Institute of Plant Protection,

Intellectual Co-operation, 685 Iowa, 705 Ireland, F., 610
Isaac, W. E., 1449, 1453, 1459
Isenbeck, K., 1140
Ivakhnenko, A. N., 1295
Ivanidis, G. P., 206 Ivanova, N. A., 123, 214 Ivashchenko, A. I., 604 Jaccard, P., 739 Jack, H. W., 236 s'Jacob, J. C., 250, 251, 279 Jacquot, A. C., 751 Jagoe, R. B., 291 Jakeš, E., 14, 735 Jamaica, (726) Janes, B. E., 1353 Japan Times, 408 Jardine, F. L., 1195 Jarry-Desloges, R., 1031 Jary, S. G., 484, 504, 532, 543, 905, (928), 937 Jayasundera, E. S., 652 Jenny, J., 400 Jepson, W. F., 1439 Jersey (président du Comité d'Agriculture), 706 Joachim, A. W. R., 629, 652, 1334, 1379, (1483) Joessel, P.-H., 874 Johansson, E., 763, 1443 Johnpulle, A. R., 630 Johnsulle, A., 641 Johnson, G. V., (1260) Johnston, J. C., 1343 Johnston, S., 1161, 1188, Johnstone, K. H., 346, 554 Jones, L. H., 940 Jones, S. E., 1480 Jones, T. H., 876 Jones, W. W., 376 de Jong, W. H., 267, 270, 271 Jordan, E., 1143 Joslyn, M. A., 666, 676, 1085 Jung, K., 234 Jurion, F., 32 Kaczmarek, A., 464 Kagawa, F., 1362 Kagy, J. F., (1355) Kahawita, R., 564 Kakihara, K., 1361 Kalantyr', M. S., 1134 Kaltenbach, D., 1471 Kandiah, S., (1483) Kanervo, V., 1247 Kapuskasing, 707 Katar'yan, T. G., 203 Katzer, A., 1302 Kearns, C. W., 545 Kearns, H. G. H., 495, 870, 890 Kelley, A. P., 1163 Kelley, V. W., 807

International Institute of

Agriculture, 340, 1097,

Leningrad, 704 Institute of Plant Protection,

U.S.S.R., (1515) International Institute of

Kelly, E. C., 671 Kelsall, A., 496, 1258 Kemmer, E., 1160, 1174, 1189 Kench, J. E., 53 Kentville, 708 Kenya Colony and Protectorate, (726) Kenya, The Water Board, 670 Kessler, H., 436 Aessler, H., 430 Kessler, W., 883 Keys, O. H., 1470 Keyworth, W. G., 935 Khaev, M. K., (1515) Kholodnyuk, I. K., 1305 Kholodnyuk, M. S., 1305 Kidd, F., 1450, 1451 Kienholz, J. R., 1220 Kimbrough, W. D., 1269 Kincaid, R. R., 1306 King, C. J., 217 King, J. R., 226, 804 King, M. E., 445 Kiplinger, D. C., (1121) Kirtbaya, Yu. K., 200, 210, Kirton, 182 Kisser, J., 851 Klaas, H., 925 Klein, H. Z., 1350 Klimenko, K. T., 222 Klimenko, V. N., 955 Klotz, L. J., 208 Klumpar, J., (405) Knapman, C. E. H., 906 Knott, J. C., 1083 Knott, J. E., 907, 912 Kobel, F., 58 Koepfli, J. B., 1114 Kokhas', T., 329 Kokin, A. Ya., (167) Kolesnik, I.D., 811 Komissarov, D. A., 11 Kondō, M., 1385 van Konijnenburg, E., (1084) Konis, E., 5 Konstantinov, M. K., 980 Koolhaas, D. R., 233, (1084) van Koot, Y., 922 van de Koppel, C., 223 Korotkova, Z. I., 637 Krasinsky, N. P., 341 Krauss, B. H., 649, 1046, 1047 Kremer, J. C., 1485 Krijthe, N., 184, 953 Kroker, K., 1444 Krone, B. P., 1286 Krug, C. A., (1398) Krügel, C., 745 Krumbholz, G., 764 Kuhlman, G. W., 170 Kul'chitsky, V. V., 758 Kuntz, W. A., 580 Kuntze, H. A., 609 Kuznetsov, V. V., 411, 758

Laffond, P., 1208 Lakin, H. W., 26 Lambert, E. B., 530, 927 Lamiman, J. F., 215, (1260) Lamm, R., 508 Lamotte, P., 1394 Lane, R. H., (369) Lange, E. G., (928) Langham, W., 749 Lanuza, E. A., 1404, 1429, 1433 Lapin, V. K., 195, 220, 336 Larina, A. K., 606 Larson, A. O., 158 Larter, L. N. H., 646 Lathrop, F. H., 1244 Latta, R., 959 de Lattin, G., 1192 Latvia, Forest Department, 102 Lausanne, 709 Lavryichuk, I. I., 1345 Lavryichuk, I. I., 1345 Lawrence, W. J. C., 398, 1086 Leach, J. G., (893) Leach, L. D., 1231 Lebedgus, S. P. 76 Lebedeva, S. P., 76 van Leeuwen, A., 275 Lefèvre, J., 373, 1200 Lemaitre, R., 1486 Lenin Academy of Agricultural Sciences, 1513, 1514 Leningrad, Institute of Plant Protection, 704 de Leon, A. I., 1074 Leonard, E. R., 1062, 1472, 1476, 1477 Lesley, J. W., 920 Lesley, M., 920 Lesnikovsky, G. M., 888 Leuzinger, H., 1236 Levy, B. F. G., 433 Lewis, A. H., 1282, 1289 Lewis, D., 1150, (1187) de Ligt, N. M., 1396 Lincoln, F. B., 788 Lindblom, A., 478 Lindgren, D. L., 213 Linford, M. B., 1381 Link, G. K. K., 311 List, G. M., 527 Listo, E. M., 1247 Listo, J., 1247 Lloyd, J. W., 909 Lobanov, G. A., 429 Loehwing, W. F., 403 von Loesecke, H. W., 1488 Loewel, E. L., 90, 98 Löhnis, M. P., 463 London, Imperial Economic Committee, 347, 348, 700, (701), 1091, 1092, 1516, 1517 London, Ministry of Agricul-ture, 320, 321, 343, 344, 345, 487, 1093 Long, E. M., 1123, (1125) Longley, L. E., (1121) Longrée, K., 948 Lopatin, M. I., 859 Lorenz, O. A., 1191

Lotthammer, R., 745 Loucks, K. W., 1194, 1460, 1461 Lucas, P. S., 1505 Lunn, W. M., 537 Lutz, H., 1205 Lutz, J. M., 1059 Luyten, I., 952, 954 Lyle, E. W., 178 Lyubochko, O., 55

MacArthur, M., 1169 McCallan, S. E. A., 491, 492 McCollum, J. P., 909 McCowan, J. D., 615 McCorory, S. A., 498 MacDaniels, L. H., 887 Macdougal, D. T., 196 MacDowall, R. K., 503 Mack, W. B., 1131 McKay, J. W., 844 McKinstry, D. W., (173) Maclinn, W. A., 1446 Macluskie, H., 1438 McMillen, W. N., 749 McMurtrey, J. E., jr., 161, 389 McNew, G. L., 472 Macpherson, N. J., 507 Madden, A, H., (547) Mäde, A., 62 Madras, Department of Agriculture, 1536, (1544) Magee, C. J., 297 Magie, R. O., 525 Magistad, O. C., 650 Magness, J. R., 813 Maine, 1537 Makarova, K. N., 618 Makarovsky, A. F., 521 Malaya, Rubber Research Institute, 710, 1413, 1414, 1416, 1417 Mallamaire, A., 1045 Mallison, E. D., 317 Mallock, J. G., 327 Malta, (1544) Manta, (1944) Manaresi, A., 89, 1159 Manchesian, J. T., 323 Manion, J. T., 648 Mann, H. H., 1256 Manning, D., 507 Manning, W. E., 453, 1204 Manson, A. D., 168 Manzoni, L., 450, 848, 939 Marani, M., 71, 1170 Marcel, M., 1279 Marcucci, G. B., 1368 Margolin, A., 52 Markwood, L. N., (1260) Marloth, R. H., 216, 569, 1354 Marmoy, F. B., 1289 Marneffe, —., 1197 Marsh, G. L., 666, 1085 Marsh, R. S., 814 Marsh, R. W., 490, 863 Marshall, G. W., 1359

Marshall, J., 889 Marshall, R. E., 1157, 1485 Marth, P. C., (1121) Martin, H., 495, 890, 891, 1255 Martin, J. T., 1255, 1256 Masefield, G. B., 1006 Maslennikov, A. V., 608, 1363 Mason, A. S., 660 Massee, A. M., 106, 115, 445, 867, 872, 873 Massey Agricultural College, 1538 Masure, M. P., 1063 Mathewson, A. A., 590
Mathewson, A. A., 590
Mathur, P. B., 1064
Matkovsky, S. T., 157
Matskov, F. F., 1132
Maurer, E., 339
Mauri, G., 1030
Mauri, N., 197, 967, 1030
Mauritius (726) Mauritius, (726) Mayer, M. I., 1080 Meier, K., 39, 68 Melville, R., 524 Memetov, A., 471 Mendel, K., 971 Mengersen, F. G., (938) Mercanton, M. P. L., 1209 Merkle, F. G., 1182 van der Merwe, C. P., 241 Meshechok, B. I., (1427) van der Meulen, A., 1020 Meyer, B. S., 380 Michelbacher, A. E., 105, 156 Michener, H. D., (369) Michener, H. D., (369) Michigan, (726) Micklem, T., 424 Middleton, J. T., (893) Miège, E., 993 Miller, J. C., 603, 613 Miller, J. T., 26 Miller, P. R., 1233, (1234) Milner, E. M., 996 Milsum, J. N., 283
Ministry of Agriculture,
London, 320, 321, 343,
344, 345, 487, 1093 Minnesota, (726) Miserova, A. M., 103 Mitchell, J. H., 1437 Mitchell, J. W., 1118, (1121) Mitchurin, I. V., 762, 769, 770, 771, 772, 793, 794, 810, 950, 1087 950, 1087 Moen, O., 43 de Mol, W. E., (960) Molegode, W., 628 Molodozhikov, M. M., 1412 Moitzau, R. H., 640, 1495 Momot, K. G., 995, 1412 Monro, H. A. U., 308 Moon, H. H., 612, 616 Moore, D. C., 644, 1039 Moore, M. H., 100, 494, 862 Moore, W. C., 550 Moore, W. D., 535

Morden, 711

Morel, R. C., 1078
Moreland, C. F., 1274
Morettini, A., 943, 989, 991
Morgan, E. T., 1129
Morley Davies, W., 898
Moroz, E. S., 204, 574
Morris, C. C., 322
Morris, V. H., 126
Morrison, G., 151
Morrow, E. B., 825
Mortensen, E., 74
Morwood, R. B., 1221
Moss, E. G., (547)
Mossop, M. C., 1358
Mostafa, M. A., 551
Mote, D. C., (1260)
Moyer, L. S., 392
Moyse, W. J., 507
Mullard, S. R., 393
Müller, G., 1211
Muller, H. R. A., 986, 1348, 1386
Müller, K., (1260)
Müller-Stoll, W. R., 834
Mullison, W. R., 1283
Muncie, J. H., 1266
Munger, F., (1260)
Munson, R. G., 863
Murer, H. K., 1083
Murneek, A. E., 1179
Murray, C. W., 125, (1234)
Murray, R. K. S., 268, 269, 276, 277, 635
Mutovkina, T. D., 1016
Myers, M. C., 365
Mysore, 1383, (1544)
Nadalaya, G. B., 1347
Nadel M. (7544)

Nadaraya, G. B., 1347
Nadel, M., (754)
Nagao, M., (1121)
Nagy, R., 858
Nath, P., 1268
Natividade, J. V., 1153
Natsentov, D. I., 131
Nattrass, R. M., 312
Naumova, A. N., 20
Naumdorf, G., 3, 4, 1113
Nazimov, V. N., 1017
Neal, W. M., 1507
Nebraska, (1544)
Nelson, E. K., 1489
Nemiritsky, B. G., 214
Nettles, V. F., 1263
Neubauer, H. F., 72
Newell, J., 1086
New South Wales, 768, (1094)
New York, 712
New Zealand, D.S.I.R., 761
Nichols, R. F. W., 651
Niehaus, C. J. G., 672, 675, (677)
van Niekerk, S. W., 1198
Nigeria, 713
Nightingale, G. T., 391
Nikiforov, V. P., 1346
Niklas, O. F., 1249
Nikol'sky, V. L., 219, 481
Nixon, R. W., 644, 1436

Norbury, C. P., 1078 Norris, F. W., 696 North Carolina, 714, 1539 N. Rhodesia, (1544) Nouri, O., 225 Nyasaland, (726), (1544)

Oberholzer, P. C. J., 1337
Obermayer, E., 137
Obermayer, E., 137
Ocfemia, G. O., 1010
Odland, T. E., 1277
Oertel, A. C., 753
Ogilvie, L., 550, 864, 895, 913, 934
Ohio, (1544)
Oinoue, Y., 736, 835, 836
Ojala, E. M., 514
Old, A. N., 1357
Oliver, R. W., 17, 174, 737
O'Neill, W. J., (1260)
Ontario, Vineland, 722
Opitz, K., 1311, 1313
Oppenheimer, C., 639
Oppenheimer, H. R., 971
Opsomer, J. E., 244
Oraman, N., (838)
Orchard, O. B., 1315
Orsenigo, G., 939
Osburn, M. R., 583, 586
Oserkowsky, J., 467
Oskamp, J., 64
Ostendorf, F. W., 254
Östlind, N., 763
Ounsworth, L. F., 315
Overholser, E. L., 1083
Owen, O., 503, 1253

Paech, K., 1445
Page, F., 1173
Page, H. J., 1423
Paguirigan, D. B., 1012, 1013
Paikin, D. M., 211
Painter, A. C., 819
Pal, B. P., 994, 1268
Palestine, 1096
Papisov, P. I., 1338
Parham, B. E. V., 295, 303
Parham, W. L., 228
Park, M., 630, 653
Parker, E. R., 602
Parker, J. R., 1250
Parker, J. R., 1250
Parker, O., 217
Parmentier, A., 1486
Parodi, L., 748
Parris, G. K., 1041
Parsons, T. H., 1003, 1052
Pascual, A., 190, 191
Pataraya, Sh. I., 1393
Paterson, W. Y., 515
Patrick, S., (938)
Paul, W. R. C., 617, 629, 630, 652
Peacock, N. D., 827
Pearse, H. L., 776, 1098
Pederson, C. S., 678
Peecch, M., 976
Pennsylvania, 37, (726)

Pentzer, W. T., 317, 1218 de Peralta, F., 1012, 1013 Perera, E., 1003 Perlberger, J., 965 Perlberger, J., 965 Petch, C. E., (1260) Peterson, W. H., 858 Petherbridge, F. R., 898 Phillips, W. R., 302, 308, 1452 Piddlesden, J. H., 259, 332 Pieper, H., 1312 Pierce, W. C., 486 Pieri, A., 778 Pieris, W. I., 1029 Pieris, W. V. D., 1528 Pietsch, A., 1309 Piguet, G. A., 448 Piguet, G. A., 448 Piguet, G. A., 448 Piskarev, V. I., 41 Pitcher, R. S., 484 Pizer, N. H., 473, 531 van der Plank, J. E., 1454, 1466, 1467, 1468, 1469, 1473, 1474, 1475, 1482 Plant, W., 362 "Planter", 622 Plesetsky, P. F., 918 du Plessis, S. J., 474, 475, 1224, 1462 Podluzhny, L. F., 1042 Poland, G. L., 648 Pomeroy, G. S., 375 Popova, A. I., 1238 Popp, H. W., 23 Portères, R., 1023 Potapenko, Ya, I., 1155 Potter, G. F., 850 Potter, G. F., 850
Pratt, R., (369)
Precce, I. A., 696
Prendergast, D. T., (1355)
Prescott, J. A., 845, 1035
Price, J. R., 398
Prinz, Ya. I., 109
Proefstation Voor Rubber, Koffie en Tabak, 715 Proefstation voor Vorstenlandsche Tabak, 716 Pubols, B. H., 765 Pulley, G. N., 1488

Quale, H. J., 212 Quarrell, C. P., 351 Queensland Acclimatisation Society, 717 Quin, D. G., 83

Raby, J., 54
Raeburn, J. R., 1069
Rakitin, Yu. V., 313
Ralston, W., 501
Ramsay, G. B., 311
Randell, S. E., 470
Rangel, J. F., 1349
Raphael, T. D., 1216
Rasmussen, M. P., 316, 1068
Rasnizina, E. A., 19, 20
Rattray, J. M., 1463, 1465, 1466, 1467, 1468, 1469, 1473, 1481, 1482
Rawitscher, F., (405)

Reece, P. C., 1373 Reed, H. M., 198 Reed, H. S., 196, 1215 Reeves, E. L., (1234) Regeimbal, L. O., 813 Reichert, I., 965, 1032 Reid, J. J., (173) Reid, M. E., 371 Reid, W. D., 154, 591 Reid, W. D., 104, 391 Reifenberg, A., 1356 Reimers, F. E., 509 Reinecke, O. S. H., 466 Reinecke, V., 1183 Reinhold, J., 153 Reiter, R., 30 Reuther, W., 177, 224, 422 Reuther, W., 177, 224, 42 Reyneke, J., 1183, 1462 Rhoads, A. S., 579 Richards, A. V., 566 Richardson, E. G., 1142 Richardson, J. K., 146 Richey, H. W., 1480 Richter, H., 682 Richter, H., 682 Rietsema, I., 406 Riker, A. J., 858 Ripperton, J. C., 640, 1495 Roach, W. A., 432 Robbins, W. J., 1108 Robets, A., 6 Roberts, E. A. H., (668) Roberts, O. C., 1057 Roberts, R. H., 1141 Robertson, P. L., 1246 Robinson, B. B., 170 Robinson, G. M., 398 Robinson, K. L., 1137 Robinson, R., 398 Robinson, R. E., 1448 Robinson, T. R., 588 Röder, K., 142, 915 Rodrigo, P. A., 1033, 1051 Rodingo, F. A., 1033, 1031 Roebuck, A., 898 Roelofsen, P. A., 1399 Roemer, T., 1140 Rogers, L., 1044 Rogers, W. S., 420, 421, 445, 796, 797, 818 Roland, G., 900 Rolfe, S. W., 505 Rolfs, C., 631 Rolfs, P. H., 631, 632 Romberg, L. D., 843 Rome, International Institute, of Agriculture, 340, 1097, 1471 1471 Romshe, F. A., 1292 Rose, D. H., 1218 Rosenfels, R. S., 1254 Ross, W. A., 443 le Roux, J. C., 1339, 1371 Rowland, F. E., 132 Rowntree, B. S., 342 Roy, B., 56 Royal Agricultural Society of England, 349 Rubber Research Institute, Malaya, 710, 1413, 1414, 1416, 1417

Rudloff, C. F., 59, 425, 800, 801 Ruehle, G. D., 580 Rufener, W. W., 766 Ruggieri, G., 1333 Rusch, F., 1415 Ryall, A. L., 657 Rygg, G. L., 578 Rzhevkin, A. A., 988 S., R. L., 623 Salgado, M. L. M., 1529 Sal'kova, A. K., 328 Salmon, E. S., 473, 541, 542, 929, (938), 1307 929, (938), 1307
Samuels, C. D., 1340
Sarma, S. N., (668)
Savage, E. F., 820
Savastano, G., 756, 1073, 1365, 1367, 1368, 1369, 1496, 1498, 1499 Scarone, F., 998, 1025, 1036 Scarth, G. W., 1207 Scarth, G. W., 1207 Scheel, R., 1669 Scherz, W., 80 Schlenz, P., 1210 Schmidt, H., (173) Schmidt, M., 59, 97 Schmidt, M., 59, 97 Schmidt, R., 141 Schmöle, J. F., 266 Schneider, C. L., 1111 Schneider, J. B., 144 Schoonover, W. R., 1344 Schoorel, A. F., 1015 Schrader, A. L., 446 Schrader, A. L., 446 van Schreven, D. A., 897 van Schreven, D. A., Schroeder, W., 1082 Schropp, W., 1310 Schultz, E. F., 1351 Schultz, H., 142, 915 Schultz, F., 1160 Schuster, C. E., 86 Schwartze, C. D., 857 Schweizer, J., 251, 265, 715, 1401, 1418 Scott, D. H., 817 Scotingeour, J., 1531 Scupin, L., 1479 Seale Hayne, Dep. Plan Pathology, 1322, 1540 Plant Seaton, L., 590 Seaton, L., 590 Seelinger, R., 1226 Selman, I. W., 524 Seltzer, P., 1208 Serdyukov, P., 108 Setterstrom, C., 1206 Severin, H. H. P., 147

Shibuya, T., (1121) Shirlow, N. S., 1281 Shultis, A., 186 Shutak, V. G., 1303 Sibert, E., 249 Sideris, C. P., 649, 1046, 1047 Sidorenko, M. I., 521 Siegemura, T., 1361 Siegler, E. H., (1260) Sierra Leone, (726) Sikharulidze, M. G., 1018 de Silva, C. A., 276 Silver, E. A., 126 Siminovitch, D., 1207 Simmonds, J. H., 118 Simonet, M., 373 Sinclair, W. B., 1353 Sinden, J. W., 160 Singh, B. N., (397) Sitton, B. G., 840, 1064 Siukhin, M., 597 Sivoraksha, G. S., 595 Skillman, E., 402 Skinner, J. J., 842 Skoog, F., (369), 430 Slate, G. L., 73 Smirnova, O. N., (893) Smith, A. M., 515 Smith, C. E., (547) Smith, C. E., (547) Smith, C. E., (547) Smith, J. B., 896 Smith, J. B., 896 Smith, J. B., 896 Smith, J. H., 479 Smith, L. E., (1260) Smith, C., 904 Smith, T. E., 537 Smith, W. H., 1456 Smyth-Homewood, G. R. B., 502 Snadd. 1, 1482
Chilarra T (1191)
Shirlan N S 1991
Shultin A 186
Shutak V G 1808
Sihert E. 249
Sideris, C. P., 649, 1046, 1047
Sidorenko, M. L., 521
Siegemura, T., 1361
Siegler, E. H., (1260)
Sierra Leone, (726)
Sikharulidze, M. G., 1018
de Silva, C. A., 276
Silver, E. A., 126
Siminovitch, D., 1207
Simmonds, J. H., 118
Simonet, M., 373
Sinciair, W. D., 1303
Single P N (207)
Sitton B G 840 1064
Sinkhin M 597
Siyoraksha G. S. 595
Skillman, E., 402
Skinner, J. J., 842
Skoog, F., (369), 430
Slate, G. L., 73
Smidrkal, B., 12
Smieton, M. J., 1273
Smirnova, O. N., (893)
Smith, A. M., 515
Smith, C. E., (947)
Smith D C (028)
Smith F F 947
Smith, I. B., 896
Smith, J. G., 655
Smith, J. H., 479
Smith, L. E., (1260)
Smith, O., 904
Smith, T. E., 537
Smith, W. H., 1456
Smyth-Homewood, G. R. B.,
502 Snapp, O. I., 482 Snigirev, D. P., 1412 Snow, R., 359 Söding, H., 1, 2 Soesman, J. G., 280, 1420 Sokolovsky, I., 40 Soliven, F. A., 1074 Souček, J., 51 South Africa, Union of Depart-
Snigirey D P 1419
Snow R 359
Söding, H., 1, 2
Soesman, J. G., 280, 1420
Sokolovsky, I., 40
Soliven, F. A., 1074
Souček, J., 51
South Africa, Union of, Depart-
ment of Agriculture, 318,
536, 559, 718, 1067,
South Africa, Union of, Department of Agriculture, 318, 536, 559, 718, 1067, 1327, 1542 South African Co-operative
Citrus Exchange Ltd.,
1541
Court Australia 710
Southern Rhodesia, 720
Southwick, L., 789, 1167
Spaulding, P., 1232
Spencer, H., 583, 586
Spinks, G. T., 767, 781, 847
South Austrana, 719 Southern Rhodesia, 720 Southwick, L., 789, 1167 Spaulding, P., 1232 Spencer, H., 583, 586 Spinks, G. T., 767, 781, 847 Sprenger, A. M., 230 Spurway, C. H., 401 S. S. and F. M. S., Department of
Spurway, C. H., 401
S. S. and F. M. S., Department of

Agriculture, 245, 257, 289

Straits Settlements, Dir. Gdns., (1544)Staehelin, M., 427, 500 Stals, A., 150 Staniland, L. N., 1322 Stanley, E. B., 1001 Stapel, C., 802 Stearn, W. T., 555 Steer, W., 122, 494, 885 Stehlé, H., 1007 Steinegger, P., 58 Stekhun, F. I., 35 Stepantsev, I. N., 114 Stevens, H. E., 1375 Stevenson, G. B., 520 Stewart, C. E., 565 Stewart, W. S., 1115 Steyaert, R. L., 1038 Stier, H. L., 1293 Stirrup, H. H., 898 St. Kitts Nevis, (1544) St. Altts Nevis, (1944)
Stockdale, F., 1090
Stockholm, Växtskyddsanstalt, 511, 513, 871
Stofberg, F. J., 216, 1354
Stoffels, E. H. J., 1028
Storey, H. H., 651, 1219
Storey, I. F. 908 Storey, I. F., 908 Stoughton, R. H., 362, 393 Stout, P. R., (1133), 1138 Stoutemeyer, V. T., (1121) Street, M. D., 188 Streets, R. B., 833, 1001 Struckmeyer, B. E., 1141 Stuart, N. W., (1121) Stuckey, I. H., 462 van Stuivenberg, J. H. M., 57 Sturgess, V. C., 398 St. Vincent, B.W.I., 721 Sudan, (726) Sudds, R. H., 814 Sugawara, T., 1124 Suit, R. F., 525 Sult, R. F., 325 Sukortseva, K. D., (1515) Sulit, J. I., 1506 Susa, T., 798 Swabey, C., 1005 Sweet, R. D., 912 Sylva, K. J., 1003 Tadeosyan, P. Ya., 247 Taggiasco, G., 1257 Taggi-Zade, A., 592 Takahashi, R., 1385 Takahashi, T., 1361 Talbert, T. J., 44 Tammes, P. M. L., 290 Tanaka, T., 193, (754), 961, 1428 Tanganyika Territory, Department of Agriculture, 621, (726) Taran, E. N., 1412 Taranovskaya, V. G., 589 Tate, H. F., 833 Tattersfield, F., 1255, 1256 Taubitz, A., 894

Tavernetti, A. A., 144 Taylor, A. Ll., 577
Taylor, C. A., 972, 973
Taylor, G. G., 201
Taylor, H. V., 346 Taylor, J. J., 565
Taylor, J. K., 77
Taylor, N. H., 982
Teakle, L. J. H., 741, (754), 1129 Tempany, M. A., 680 Templeman, W. G., 15, 394 Terasaka, Y., 1385 Thamotheram, T. V., 1382 Theron, C. J., 672 Thiem, H., 1248 Thimann, K., (369) Thimann, K. V., 355, 1099, 1111 Thomas, H. E., 467, 1225 Thomas, J. E., 84, 85 Thomas, L. A., 47, 48 Thomas, P. H., 1216 Thomas, P. T., 1151 Thomas, W., 1131 Thompson, A., 294 Thompson, A. J., 531 Thompson, E. C., 784 Thompson, F. C., 1319 Thompson, H. C., 904 Thompson, J. M., 187 Thompson, R. C., 145, 518 Thompson, R. H. K., 92 Thompson, W. L., 584 Thornton, N. C., 370, 1270, 1271, 1323 Tiedjens, V. A., 1264 Tikhonova, A. S., 410 Tilford, P. E., 360 Tiller, L. W., 679 Tillson, A. H., (587) Tinckner, M. A., 503 Tindale, G. B., 306 Tinline, M. J., 24 Tisdale, W. B., 1306 Toenjes, W., 1162 Tomkins, R. G., 1054 Tomlinson, F. R., 999
Tompkins, C. M., (893), (960)
Torres, J. P., 964, 1331, 1374
Toxopeus, H. J., 232, 983 Traub, H. P., 588 Trenel, M., 1130 Tressler, D. K., 678, 1085 Trevains, D., 168 Trinidad, Commissioner of Agriculture, I.C.T.A., 721, (1544) Trinidad, Imperial College, (726) Trinidad, Sugar Cane Experiments, (726) Trochain, J., 1022 Tros'ko, I., 596 Trout, S. A., 306 Truet, H., 792, 839 Trushinsky, G. M., 607 Tserevitinov, S. F., 1079

Tubbs, F. R., 1014 Tucker, C. M., (893) Tukey, H. B., 46, 787, 808, 1172 Turnbull, J., 345, 1089 Turner, N., 516 Turner, P. E., (726) Tydeman, H. M., 790, 791

Uber, F. M., 379 Uganda Protectorate, (726) Ullyett, G. C., 488, 1251 Umpleby, E., 870 Underhill, G. W., 485 United States, Secretary of Agriculture, 1081
Uphof, J. C. T., 963
Upshall, W. H., 49, 409, 1180
Urushadze, D. R., 573 U.S.S.R., Department of Agriculture, (1515) U.S.S.R., Institute of Plant Protection, (1515)

de Vahl Davis, G., 301 Vaidie, P., 944 Vaile, J. E., 1193, 1201 Valaer, P., 1490 Vanstone, E., 906 Varadaraja Iyengar, A. V., 395 Vasiliev, K. V., 757, 758 Växtskyddsanstalt, Stockholm, 511, 513, 871 van der Vecht, J., 1435 van der Veen, R., 252 von Veh, R., 1171 Veitch, R., 119 Verhoef, L., 330 Verner, L., 853, 854, 1168 Viktorov, V. F., 113 de Villiers, D. J. R., 1455, 1457, 1466, 1467, 1468, 1469, 1473 De Villiers, J., 422 Vineland, Ont., 722 Vinogradov, A. P., (754) Vinson, C. G., 423, 461, 498 Voelcker, O. J., 1409 Vogel, F., 143, 180, 951, 1262, 1267 Volkhovskaya, U. V., 1426 Volk, A., 82 de Vore, Ll., 23 Vuillet, J., 1048 Vyvyan, M. C., 783

Wade, B. L., 159 Wadley, F. M., 112 Walford, E. J. M., 314 Walker, G. L., 516 Walker, H. B., 1344 Walker, S. J., 1340 Walker, S. J., 1340 Walker, W. F., 414 Wall, M. E., 1264, 1290 Wallace, C. R., 647 Wallace, J. C., 556 Wallace, T., 829, 846

Wallis, H. W. H., 25 Walsh, F. W., 656 Walsh, F. W., 656
Walter, E. V., 590
Wander, I. W., 435
Wanscher, J. H., 773
Warcollier, G., 759
Ward, K. M., 1214
Wardlaw, C. W., 296, 658, 1062, 1472, 1476
Ware, W. M., 473, 542, 934, (938)
Warne, L. G. G., 54
Washington, 723, 724 Washington, 723, 724 Wasser, R. E., 218 Water Board, The, Kenya, 670 Waterschoot, H. F., 957 Waterschoof, H. F., S Wates, B. L., 819 Watkins, J. V., 732 Watson, E. B., 174 Watson, S. J., 394 Watts, V. M., 1291 Waugh, J. G., 817 Weaver, D. S., (754) Webber H. J. 668 Webber, H. J., 968 Weber, A., 309 Weber, G. F., 1298, 1301, 1376 Webster, C. C., 288 Webster, R. L., 868 Wehrle, L. P., 833 Weinard, F. F., 941 Wellensiek, S. J., 1391 Wellington, R., 444 Wellman, H. R., 188 Wellman, R. F., 663 Went, F. W., 1104, 1106, 1116, (1121) H116, (1121)
West, C., 1450, 1451
West, E. S., 199, 202
Wetmore, R. H., 1169, 1204
Wetzel, A., 1317, 1318
Whatley, C. W., 510
Wheeler, D. H., 1489
Whitcomb, W. D., 134
White H J 510, 526 White, H. L., 519, 526 White, P. R., (547) White, R., 1104 Whitelaw, E. W., 686 White-Stevens, R. H., 1136 Wiant, J. S., 310, 311 Wiche, P. O., 1439 Wickens, G. M., 164 Wiegand, E. H., 324 Wiesmann, R., 116, 400 Wilbaux, R., 669 Wilbrink, W. G. J., 1400 Wilcox, J. C., 91 Wilcoxon, F., 491, 492, 1101, 1284 Wildon, C. E., 401 Wilkinson, E. H., 1058 Willard, D. R., 896 Williams, C. F., 439, 441, 815, 816 Williams, K. T., 26 Williams, P. H., 553 Williams, R.O., 189 10

Williams, W. O., 449 Williams, W. R. Ll., 1217 Willison, R. S., 1458 Wilson, E. E., 1223 Wilson, R. D., 353 Wilson, R. D., 353 Winkler, A. J., 449 Winston, J. R., 1447 Wit, F., 984 Witt, A. W., 454 Witte, P. J., 577 Wood, J. F., 198 Wood, R. C., 229 Woodcock, J. W., 172 Woodhead, C. E., 1227 Woodman, R. M., 910, 911, 1275 Woodroof, J. G., 661 Woodruff, S., 925 Woods, J. J., 129 Wormald, H., 352, 855, 860, 865 Wormser, M. G., 262 Wóycicki, S., 175, 942 Wright, J., 699 Wróblewski, A., 779 Wundrig, G., 425 Wye, 725 Wyllie, J., 404 Yakimovitch, A. D., 522

Yakimovitch, A. D., 522 Yap, F., 1381, 1441 Yersin, A., 1027 Yocum, W. W., 66 Yothers, M. A., (1234) Young, H. Y., 649, 1046 Young, J. O., 1172 Young, P. A., 1294 Yuganova, O. N., 683

Zaaijer, J. W., 1380 Zaayer, J. W., 258 Zakharova, E. I., 1155 Zaldastanishvili, S. G., 560 Zanotti, L., 562 Zanzibar, Department of Agriculture, 1543 Zaostrovskaya, E. N., (1515) Zaumeyer, W. J., 159 Zelensky, M. A., 1152 Zeller, A., 903 Zeller, S. M., 469 Zemlinsky, S. E., 1000 Zerling, V. V., 746 Zhdanova, L. R., 9, 10, 13 Zhigarevich, I., 997 Zhuchkov, N. G., 428 Zimmermann, P. W., 356, 357, 358, 1100, 1101, 1105, 1107, (1121), 1122, 1206 Zinn, F., 179 Zorin, F. M., 63, 969 Žubeckis, E., 1147 Zubov, M., 101 Zweede, A. K., 57 Zycha, H., 926 Zylva, St. L. H. de, 1053

Horticultural Abstracts, Vol. IX

N.B.—Brackets round a number signify that the article has been noted only and not abstracted.
Abaca—
mosaic, 1010, 1388
vascular disease, 1009
Abbreviations, international code, 685
Acanthoscelides obsoletus, 104
Acetylene for ripening fruit, 1471
Achatina fulica control, 235, 1382
Actinidia spp., berries contain vitamin C., 75
Agave sisalana, see Sisal
Agelastica alni as fruit pest, 1242
Albizzia malococarpa shade for coffee, 1022
Aleurites—see also Tung oil
botany of, 984
cordata in Japan, 220, 222
Fordii, 985
moluccana, 220
montana—
cultivation, 985
diseases, 986
pests, 987
selection, 983
in Morocco, 981
Algemeen Landbouw Syndicaat, A. R. for 1938,
1532
Alloplectus Lynchii, plant hormones and, 729-31
Almond—
in Holland, 406
rootstocks in Algiers, 839
Alnarp—
State Experiment Station for vegetables,
A.R. for 1937, 508
varieties of fruit grown at, 763
Alsophila pometaria, 876, (1260)
Alternaria tomato, 1301
Amani, A.R. E. Afr. agric. Res. Stat. for 1937,
1518
Amani, A.R. E. Afr. agric. Res. Stat. for 1938,
1519
Amaryllis in Bermuda, 1522
Amphorophora rubi, 857
N, N amyl benzyl cyclohexylamine control of
thrips and red spider, 545
Anabasine from Anabasis aphylla, 1000
Anguillulina similis on banana, 1045
Annual report—
Algemeen Landbouw Syndicaat for 1938,
1532
Amani, E. Afr. agric. Res. Stat. for 1937,
1518
Amani, E. Afr. agric. Res. Stat. for 1938,
1519
Arizona agric. Exp. Stat. for 1937-8, 1520
Assam Dep. Agric. for 1937-8, (1544)
Basutoland Dep. Agric. for 1937-8, (1544)
Barmada Dan Agric for 1928 1522

```
Annual report (continued)-
      B. Guiana Dep. Agric. div. Reps. for 1937,
           (726)
      B. Honduras Dep. Agric. for 1937, (726)
      B. Honduras Dep. Agric. for 1938, 1523
      B. Somaliland vet. agric. Dep. for 1938,
          (726)
      Burma Dep. Agric. agric. Stats for 1937-8,
          (726)
      C.S.I.R. Aust. for 1937-8, 691
     Canada, Minist. Agric. for 1937-8, 686
     Carnegie Inst., Div. Plant Biology for
           1937-8, 690
      Cawthron Inst. for 1938, 1526
      Ceylon Coconut Res. Scheme, Geneticists',
          for 1936 and 1937, 1529
      Ceylon Coconut Res. Scheme, Soil Chemists',
           1933-7, 1529
      Ceylon Coconut Res. Scheme for 1938,
           (1944)
      Ceylon Dir. Agric. for 1937, 1527
      Cheshunt, see separate abstracts
      Cocoa Res. Stat., Tafo, for 1937-8, 699
      Costa Rica Minist. Agric. for 1938, 1530
Co. Armagh hort. Instructors (38th), 1531
      Cyprus Dep. Agric. for 1937, (726)
      Date Growers Institute (15th), 692
      Delaware agric. Exp. Stat. for 1937-8,
           (726)
      Development Commissioners Lond. (28th),
           693
      Edinburgh and East of Scotland agric. Coll.
           for 1937-8, 695
      Fiji annu. Bull. div. Reps. 1937, (726)
      Fiji annu. Bull. div. Reps. 1938, (1544)
      Florida agric. Exp. Stat. for 1937-8, 1533
      Gambia Dep. Agric. for 1937-8, (726)
      Gambia Dep. Agric. for 1938-9, (1544)
Geisenheim Versuchsanstalt for 1937, 697
      Georgia agric. Exp. Stat. for 1937-9, 698
      Hawaii agric. Exp. Stat. for 1938, 1534
Hillsborough agric. Res. Inst. for 1938-9,
           (1544)
      Hong Kong Supt Bot. for 1938, (1544)
      Imperial Coll. trop. Agric., Trin., for 1937-8,
           (726)
      Indian Tea Ass. sci. Dep. for 1937, 703
      Iowa agric. Exp. Stat. for 1937-8, 705
      Jamaica Dep. Agric. for 1937, (726)
      Jersey, President du Comité d'Agriculture,
           for 1936 and 1937, 706
      Kenya Dep. Agric. for 1937, (726)
      Low Temp. Res. Stat. Lab. Capetown for
           1936-7, 1542
      Madras Dep. Agric. sub. Officers for 1937-8,
           (1544)
      Madras Dep. Agric. Operations for 1937-8,
          (1544)
```

A

nnual report (continued)—	Aphides—
Madras Work agric. Stats for 1937-8, 1536	celery, 148
Maine agric. Exp. Stat. for 1937-8, 1537	citrus, 209
Malta Dep. Agric. for 1937-8, (1544)	control by oil washes, 497
	rosy, 496
Mauritius Dep. Agric. for 1937, (726)	strawberry, 107, 445, 872
Michigan agric. Exp. Stat. for 1936-8, (726)	
Minnesota agric. Exp. Stat. for 1936-7,	woolly, 108, 485, 497, 870, 871, 1140, 1239
(726)	1240, 1535, 1540
Nebraska agric. Exp. Stat. (52nd), (1544)	A phis forbesi, 107
Nigeria Dep. Agric. for 1937, 713	Aphodius fimetarius, 867
N. Carolina agric. Exp. Stat. (60th), 714	Aplanobacter michiganense, 154
M. Carolina agric. Exp. Stat. (61st) 1520	Apple(s)—
N. Carolina agric. Exp. Stat. (61st), 1539	angular leaf spot, 855
N. Rhodesia Dep. Agric. for 1938, (1544)	
Nyasaland Protectorate Dep. Agric. for	Antonovka, 777, 1147
1937, (726)	aphis, woolly, 108, 485, 497, 870, 871, 114
1937, (726) Nyasaland Protectorate Dep. Agric. for	1239, 1240, 1535, 1540
1938, (1544)	biennial bearing, 429, 1178
Ohio agric. Exp. Stat. (56th), (1544)	bitter pit, 307
	blossom morphology, 764
Palestine Dep. Agric. for 1937, 1365	blossom thinning, 1178
Pennsylvania agric. Exp. Stat. for 1937-8,	
(726)	blossom weevil, 480, 494, 1248
Queensland Acclimatisation Soc., 1937-8, 717	blue mould on, 663
Res. Stat. Rubber, Coffee and Tobacco,	box sterilization, 663
Dutch East Indies, 1936-7 and 1937-8	for bread making, 327
715	breeding, 40, 97, 410
	bud differentiation, 428
Res. Stat. Vorstenland Tobacco for 1937-8,	budding technique, 44, 46, 775
716	
Rubber Res. Bd Ceylon for 1937, (1378)	butter, 1484
Rubber Res. Inst. Malaya for 1936 and	calcium cyanamide for, 814
1937, 710	canker, 863
Seale Hayne agric. Coll. Dep. Plant Path.	canker, perennial, (1234)
	capsid, 487, 497
for 1937-8, 1540	clearwing, 867
Seychelles Dep. Agric. for 1937, (726)	codling moth on, 111, 483
Sierra Leone Dep. Agric. for 1937, (726)	
South Africa Co-op. Citrus Exch., Director's	collar rot, 456
Rep. for 1938, 1541	composition of trees on different rootstock
South Africa Dep. Agric. for 1937-8, 718	1158
South Australia Minist. Agric. for 1937-8,	Coniosporium disease, 99
	Conotrachelus nenuphar as pest of, 1243
719	cork in, 92, 93, 1056
Southern Rhodesia Tobacco Res. Bd for	corky core, 91
1937, 720	
St. Kitts-Nevis Dep. Agric. for 1938, (1544)	costs and production in Quebec, 33
St. Vincent Dep. Agric. for 1937, 721	cracking of fruits, 853
Station féd. Ess. vit. Lausanne for 1937, 709	crisps, 1484
	crotch angles and growth hormones, 1168
Straits Settlements Dir. Gdns for 1938	culinary properties of Minnesota, 665
(1544)	cuttings, root, 45
Sudan Dep. Agric., Part II for 1937, (726)	cytology, 773
Sugar Cane Invests. Trinidad for 1938, (726)	Danish varieties, 38
Tanganyika Dep. Agric. for 1938, (726)	
Uganda Dep. Agric. for 1937-8, (726)	defoliation due to Phyllosticta prunicola, (89)
Vineland hort. exp. Stat. for 1937-8, 722	dehydration, 664
Weshington Ct. amin Town Ctat Dullman	dormancy and growth stimulants, 430
Washington St. agric. Exp. Stat. Pullman	double working, 44, 50, 418-20, 456, 783
for 1937-8, 723	drought spot in, 91
Ants, 488	embryo development in water culture, 11'
Ant, a leaf cutting, fungus growing, 590	exports from Australia, 662
Anthocyanins, a survey, 398	
	fertilizers and manures, 68-70, 434, 813, 81
Anthonomus pomorum, 480, 494, 1248	filler varieties, 409
Anthonomus pyri, 1249	flower bud, 428
Antirrhinum—	frost injury, 89, 459, 461
downy mildew, 549	fruit—
genetics, (181)	anatomy, 1169
Anychus orientalis, 1350	correlation of number of seeds to weigh
Aonidiella—see also Scale insects	
	of, 812
aurantii, 213	drop, 1167
citrina, 218	oil coating for, 1479
A panteles congregatus, (547)	set, 61, 887
Aphelinus mali, 108, 871, 1239, 1540	fumigation with methyl bromide, 308
1,,,,	

Appl

e(s) (continued)—	Apple(s) (continued)—
gas storage, 302, 1450	silage, 1083
genetics, 1150	soils, 66
grafting wax, 1156	Sphaeropsis Malorum disease, 471
growing, commercial, in England, 345	sports, 774, 1153
growing in Ohio, 65	sprays affect photosynthesis in, 880-3
growth affected by winter spraying, 888	spray recommendations, 495
Gymnosporangium Juniperi-virginianae and,	spray residues, 125, 126, 501
472, 1233, (1234)	stem builders, 418-20
hardiness, 459, 461	storage, 302, 305, 307-9, 436, 654, 1055-8
height of trunk influences yield, 809	storage, 302, 305, 307-9, 436, 654, 1055-8 1449-52, 1479, 1480
identification, 764	storage diseases, 309, 1056, 1058
inarching rootstocks, 777, 1177	storage pests, 308
inbreeding experiments, 40	sucker, 123
intensive cultivation, 343	in Switzerland, 39
irrigation, 818	
	tarnished plant bug, a pest of, (1260)
Jonathan spot in, 307	thinning of flowers, 1178
juice, 678, 679, 687, 1076-8, 1484, 1485	top-working, 1154
leaf miner, 867	tree borer, flat headed, (1260)
leaf photosynthesis affected by sprays, 880-3	tree size differences affected by age, 1157
leaf scorch in seedling, 70	utilization in war time, 1484
lime requirements, 68	varieties, 38, 39, 406, 410
little leaf, 1214	water core, 1213
marketing of Nova Scotian, in London, 656	waxing to preserve, 456, 1480
marketing season U.K., 1937-8, 321	woolly aphis, 108, 485, 497, 870, 871, 1140
McIntosh as filler variety, 409	1239, 1240, 1535, 1540
Mitchurin, 410	yield affected by length of trunk, 809
mouldy core, effect of pruning on, 1227	Apricot—
nicotine on, 501	brown spotting, 1217
nitrogen requirements, 813	dieback, 1216
Nova Scotian, on London market, 656	frost damage, 459, 849
nutrition, 813	hardiness, 459
nutrition affects drought spot and corky	in Holland, 406
core, 91	little leaf, 1215
	in Murrumbidgee Irrigation Areas, 77
oil coating, 1479	
photosynthesis, 880-3	Arachis hypogaea, see Ground nut
picking time, 1183	Arboriculture, an outline, 756
pollen germination, 803	Argyresthia nitidella, 867
pollen tube growth, 1166	Arizona agric. Exp. Stat. A.R. for 1937-8, 1520
pollination, 55, 57, 59-61, 424, 427, 1166	Armagh, Co., 38th A.R. hort. Instructors, 1531
potash effect on seedling, 70	Aromatic plants, seed photographs, 1309
potassium utilization, 442	Arsenic—
prices, U.K., 1937-8, 321	poisoning in vine labourers, (1260)
production figures, 701	in soil, toxicity of, 747, 1254
pruning, 423, 436-8, 1227	Arsenical sprays, 125, 126, 216, 496, 883, 885, 891
quality and price of fruit, 1069	1354
in Quebec, production and costs, 33	Artichoke—
respiration, 14, 1452	hearts, frozen, 666
ringing, 1179	tuberization regulated by covering stems
root growth, 66, 420, 422, 423, 796-8	1123
roots, proximal dominance, 423	Artificial light for horticultural plants, 341, 54
rootstocks, 45-54, 339, 415-20, 780-9, 795,	Artocarpus spp. fibre plants, 237
796, 1158	Artona catoxantha, 1435
rootstocks—	Asam gelugor, 283
affected by hurricane, 788	Ascorbic acid, see Vitamin C
affected by hurricane, 788 inarching, 777, 1177	Asparagus—
intermediate, 783	cutting time, 909
root growth, 796	and linseed oil emulsion, 512
root structure, 784	rust, 138
rust, cedar, 472, 1233, (1234)	storage, 323
sauce, 1484	Aspidiotus perniciosus, 1238
sawfly, 494	Assam Dep. Agric. A.R. for 1937-8, (1544)
scab, 97, 98, 473, 489, 494, 862, 1228	Assimilation, measurement in tomato seedlings
scald, 307, 1055	524 Association of Special Libraries and Information
seedlings, 70	Association of Special Libraries and Informatio
seedling development affected by grafting,	Bureaux, 1521
1155	Asters, effect of folliculin and light on, 946
shoots, apical dominance, 423	Atta texana, a leaf cutting ant, 590

Attalea funifera, 1036	Banana (continued)—
Attalea speciosa, 633	storage, 1062, 1476, 1477
Aurantioideae, floral anatomy, (587)	sucker selection, 1437
Australian—	sugar changes during ripening, 648
banana industry, 295	thrips, 298
grape exports industry, 83	varieties, 646
Austria, fruit growing in, 30	Banding against insects, 106, 480
Auvergne, fruit growing in, 760	Basutoland Dep. Agric. A.R. for 1937-8, (1544)
Auxins, see also Growth stimulants, Hormones, etc.	Bean—bacterial wilt (various), 533, 534
comparison of, 1111 dual effect on root formation, 1106	chocolate spot disease, 923
in fruits, 1110	diseases of the snap, 535
inhibition due to, 359, 1099, 1114-7	and growth substances, 363
movement in plants, 1103, 1104	la graisse disease of haricot, 534
and parthenocarpy, 736, 1332	leaf hopper, a pest of, (173)
Avocado—	in N.S. Wales, garden, 1281
composition, 992	potash for dwarf, 1280
cultivation, 588	rust, 924
differentiation between Mexican and	weevil, 104
Guatemalan, 599	Bedfordshire, market gardening in, (507)
diseases, 1375	Bees
fertilizers, 601	and nicotine spraying, 127
floral anatomy, 1373	as pollinators, 802, 806
flower mechanism, 601	in tropics, 1053 Beet—
frost damage, 603 fruit fall, 1430	germination, 509
origin of cultivated, 1373	heart rot and boron, 511
propagation, 1374	leaf hopper, a pest of, 173
storage, 658	virus disease of sugar, 468
sun blotch, 1375	Beetroot chlorosis, 900
tongue inarching, 1374	Begonia-
tree size: seed size correlation, 600	bacterial disease of, 550
varieties, 599	bud development, 953
Azotobacter chroococcum, source of growth	leaf blight nematode, 456
stimulant, 19, 20	plant hormones and, 729-31
Azotogene, action of, 20	Belgian Congo, rubber in, 260
D == : 11 = 100#	Belgium—
Bacillus amylovorus, 1225	chicory in, 150
Bacteria produce growth stimulants, 19, 20 Bacterial—	grapes under glass in, 1197 Belvitan, proprietary growth substance, 735
blight in vines, 1224	Benzene vapour for control of blue mould
canker of stone fruit, 494, 1223	tobacco, 539
canker of tomato, 154	Benzol vapour for control of blue mould
rot of cherry, 860	tobacco, 538
Bacterium—	Bermuda Dep. Agric. A.R. for 1938, 1522
flaccumfaciens, 533	Bibliography—
Savastanoi, 1370	agricultural economics, 340
Solanacearum, 456	bud mutation, 375
tumefaciens, see Crown gall	polarographic methods, (405)
vulgare, 19	tropical agriculture, 609
Banana—	water divining, 27
in Australia, 295 bacterial wilt, 1044	Biennial bearing in apples, 429, 1178 Bilberry, see also Blueberry
beetle borer, 647	cuttings, 1188
Cercospora leaf spot, 1044, 1062	frost injury, 1212
composition, 648	frost injury, 1212 in Holland, 406
diseases, 296, 297	Biological control—
Dothiorella rot, 1032	ant control essential when using, 488
eelworm rot of Chinese, 1045	fungus by fungus, 1302
in French Guiana, 1043	nematode by fungus, 1381
in Jamaica, 646	Bitter pit, 307
leaf diseases, 297, 1044	Blackberry—
leaf spot, 297	canning, 1492
" plant failure", 296	fertilizers, 69
production figures, 701	pests, 868
in Queensland, 645	propagation, 440, 830, 831
respiration, 1476	training, 440 varieties in Holland, 406

Black cloth, effect of capping with, 1122	Bridge grafting, 44, 412, 777
Black current—	Brimeura amethystina, plant hormones and, 730
leaf spot, 855, 865	Brit. Guiana Dep. Agric. div. Reps. for 1937,(726
manuring, 829	Brit. Honduras Dep. Agric. A.R. for 1937, (726
mite, 484	Brit. Honduras Dep. Agric. A.R. for 1938, 152
Blangsted—	Brit. Somaliland vet. agric. Dep. A.R. for 1938
apple varieties and rootstocks at, 780	(726)
fruit tree manurial trials at, 69	Broccoli nutrition, 906
Blossom—	Brown—
frost injury tests, 849	rot diseases, 477, 494, (866), see als
wilt, 477, see also Sclerotinia	Sclerotinia
Blueberry, see also Bilberry—	tailed moth control, (506)
maggot, 1244	Brussels sprouts, market diseases, 311
Bookmeria nivea, 993, 1387	Bud(s)— growth, some experiments, 1116
Books and reports, see end of each number Borates, leaching of, 745	growth, olive, 1368
Borax, toxicity of, 747	mutation, see also Sports
Bordeaux mixture, 101, 473, 489, 491, 494, 520,	mutation bibliography, 375
525, 581, 893, 1303	selection in citrus, 1333
Boron—	temperature in fruit tree, 1165
in agriculture, 744, 1135	Budding
carbohydrate metabolism in relation to,	apples, 44, 46, 775
1136	cacao, 1405
citrus, toxicity in, 575	fruit tree stocks, 46
and cork in apples, 92, 93	rubber, 267-9, 1413-5
deficiency, 140, 463, 511, 1134, 1217,1241,	shield, 775
1526 determination, 1137	tea, 1391 technique, 44, 46, 775, 1413
effect on fibre and oil plants, 1310	Bug, the tarnished plant—
in horticulture, 744	as pest of apple, (1260)
isotopes for studying salt movement, 1138	as vector of soft rot in celery, 146
and leguminous plants, 925	Bulb(s)—
literature on, 744	baths, 182
and plant fertility, 1134	chemical treatment, 182, 1322
and reproduction, 746	eelworm, 183
Botanical terminology, German-English, 682	experiments at Kirton Lindsey, 182
Botany of the future, address by W. Crocker, 374	forcing, 182
Botrytis cinerea— on beans, 923	hyacinth, size affects chemical composition 1319
on grapes, 474	industry in Lincolnshire, 556
in stored apples, 1058	pests, 959
Botrytis disease of coffee, 1402	production figures for 1938, 1516
Bougainvillea glabra, plant hormones for, 734	in tropics, 957, 1522
Bramble shoot webber, 877	vapour heat treatment, 959
Brandy making, 1490	water table level and growing, 185
Brassicae seed crops, pests of, 905	Burma Dep. Agric. Rep. agric. Stats for 1937-8
Brazil, palms in, 285	(726)
Bread making, apples used in, 327 Breakdown in plum, physiological, 1456	Butyrospermum Parkii, 1048 Byssochlamys fulva in processed fruit, (1509)
Breeding—	Cabbage—
apple, 40, 97, 410	breeding, 37
cabbage, 37	Chinese, market diseases of, 311
carrot, 133	germination, 509
coconut, 642	manuring of white, 1267
at Long Ashton, 767	pests, (547)
at Mitchurinsk, 769-71 in N.S. Wales, 768	seedling growth and delayed nutrition, (547
in N.S. Wales, 768	transplanting, 139
paprika (Capsicum sp.), 137	Cacao—see also Cocoa—
pear, 37, 411 pepper, 137	alkaloid content, 1500, 1501 Almeida, a new variety of, 253
petunia for double flowers, 179	bean, biochemistry, 1504
raspberry, 40	black ant, encouragement of, 1405
for resistance, 1140	budding, 1405
strawberry, 40, 825	caffeine in, 1501
sweet potato, 613	compatibility, 1406-9
tomato, 37	cotyledon colour offering means of selecting
in U.S.S.R., 410, 411	254
vine, 79, 80, 1140	Ephestia contamination of stored, 1478

Cacao (continuea)—	Carbonydrate(s)—
fat content, 1500, 1503	in leaves of fruit trees affected by ringing, 72
fermentation, 1500-3	metabolism in vine, 449
flavour of different, 1505	Carbon dioxide storage of potatoes, 1270
manuring, 1411	Cardamoms, 628
moth, 1478	Cardamom hairy caterpillar, 1383
in New Guinea, 627	Carica Papaya, see Papaw
in Philippines, 1404	Carnation—
pollination, 254, 1406-9	in Bermuda, 1522
processing, 1500-3	oil, substitutes for, 336
selection, 254	propagation by cuttings, 175, 1315
storage pest, 1478	Carnegie Inst., Div. Plant Biol., A.R. for 1937-8,
theobromine in, 1500-1	690
at Trinidad, 1411	Carob—
yield, factors affecting, 1410	in Cyprus, 225
Calceolaria, flowering affected by artificial light-	pests and diseases, 598
ing, 548	Carotene—
Calcium—	in oranges, 577
citrus requirements of, 571	in palm oil, 334
cyanamide as apple fertilizer, 814	Carpocapsa pomonella, 111, 483, 498, 874, (1260)
cyanamide to control Sclerotinia fructicola,	Carpotroche spp., 631, 632
1229	Carrot—
deficiencies, 1283	anatomy, 901
hypochlorite for seed sterilization, 519	
	breeding, 133
mushroom requirements of, 531	rust fly, 134
California—	Casimiroa edulis, 588, 1031
agric. Exp. Stat. Rep., 1936-8, 1524	Cassava—
lettuce production in, 144	cultivation, 243
viticulture in, 78	cuttings, 1049
Callusing—	mosaic, 243, 244, 651, 1518, 1519
" false" intercellular rods in, 452	uses, 243
growth substances affect 735	Castor oil plant in Belgian Congo, 1026
growth substances affect, 735	
in vine, 452	Cauliflower—
Camphor, 995	boron deficiency, 140
Canada—	diseases, market, 311
A.R. Minister Agric, for 1937-8, 688	pests, (547)
agric, departmental directory and list of	in Delaware, 130
publications, 1938, 21	Cawthron Inst., A.R. for 1938, 1526
Fruit, Vegetables and Honey Act, 689	Celery—
Rep. Dom. Botanist, 1935-7, 1525	aphids, 148
Canadian seed potatoes, 135	black heart disease, 146
Canker—	blight, 456
apple, 477	fertilizers, 315, 1277, 1278
bacterial, of stone fruits, 494, 1223	mosaic, 147
bacterial, of tomato, 154	in New York, 914
Nectria, entrance modes, 1232	seedlings, growth stimulants and, 12
worm, 876	soft rot disease, 146
Canna—	storage, 315
composition of different parts, 612	stringiness, 149
indica, red and green, leaf transpiration, 939	tarnished plant bug injury, 146
Canned fruits—	Cell—
drained weight, 1491	ice formed in, during freezing, 462
production figures, 348, 701	wall, 377
Canning—	
	water relations, 380
blackberry, 1492	Centipede, in California, the garden, 105
domestic, of fruit and vegetables, 322	Ceratonia Siliqua, 225, 598
in Japan, 408	Cercospora Musae, 1044, 1062
loganberries, 1492	Ceresa bubalus, a pest in Switzerland, 1236
pea, quality in, 1082	Ceylon—
pineapples for, 299	citrus irrigation in, 564
vegetables, 322, 1494	coconuts in, 1528, 1529, (1544)
Canopia exitiosa, 482	orchids in, 1003
Cantharis obscura, as a pest, 1241	quarantine regulations, 1002
Capitophorus fragariae, 445, 872	Cherimoya in U.S.A., 588
Capping affects growth, 1122	Cherry—
Capsid—	bacterial rot of fruits, 860
apple, 487, 497	brown rot in Morello, 494
common green, 487	cracking of fruits, in, 854

herry (continued)—	Citrus—
crown gall, 859	albinism in seedling, 965
cytology of Duke, (1184)	ammoniation, 1341
dieback, 1222	aphid, 209
dormancy and growth stimulants, 430	Citrus aurantifolia, see Lime
fertilizers, 69	Citrus and sub-tropicals, 186-226, 559-608, 961-
frost injury to, 90, 459	1001, 1325-77
fruit fly, 116	Citrus—
fruit growth, 1172	boron toxicity, 575
fruit moth, 867	bronzing, 575, 1341
gummosis, 1222	bud selection, 1333
hardiness, 459	calcium requirements, 571
in Holland, 406	carotene, 577
Lethrus apterus, a pest of seedling, 481	in Ceylon, 1334
microclimate in tree, 62	clones, nucellar embryony, 567
Morello, 1162	copper deficiency, 575, 1341
pollination, 56-8, 1164	in Crete, reasons for decline, 1330
rootstocks, 415, 792, 793, 1162	cultivation in Ceylon, 561
Sclerotinia cinerea on, 1230	cultivation in dry zone, 564
storage, 657	cultivation in Malta, 563
sulphured, 1072	deficiency symptoms, 1341
in Switzerland, 39	die-back, 575, 1341
varieties, 39, 406	diseases, 201, 202, 208, 579-81, 977-9, 1348
Cheshunt, experimental results of 1938, 1285	1349
Chestnut, pollen effect on fruit of sweet, 844	diseases in Dutch East Indies, 1348
Chico, propagation of Ponderosa, 1033 Chicory cultivation in Belgium, 150	drainage, 974
Chillies—	economic factors, 186-8 environment and flowering, 175
leaf curl, 630	exanthema, 575, 1341
manuring, 629	export restriction, 1329
Chimaeras—	exports from Union of S. Africa, 559, 1327
a review on, 376	Florida red scale, 583
sweet potato, 1362	flowers, chemical composition, 571
Chlorate—	flower shedding, 570
contamination, removal, 1253	foliocellosis, 1341
detection in soil, (405)	frenching, 575, 1341
in soil, toxicity, 747	frost protection—
Chlorosis—	by blowers, 1343
in beetroot and spinach, 900	by heaters, 1344
in gardenia, 940	by infra red rays, 975
in ornamentals, manganese sulphate treat-	by low training, 1345
ment of, 177	by tents, 1346, 1347
in red currant, due to K deficiency, 94	frost resistance, 203-5, 574
affected by soil temperature, 940	fruits, analysis of nutrient elements in, 571
Chrysanthemum cinerariaefolium, see Pyrethrum	fruit drop, 570
Chrysanthemum—	fruit fly, 1432
flowering retarded by radiation, 942-5	fumigation, 209, 211-3, 585, 1353
heat treatment for eelworm, 456	genetics, 194, 195, 567
Chrysanthemum indicum, photoperiodicity and	green manuring, 199
growth hormones, 7, 13	grove conditions and fruit maturity, 565
Chrysanthemum—	gummosis, 579
photoperiodicity, 7, 13, 942-5	hard fruit, boron for, 1341
propagation, 175	harvesting machinery, 200
Chrysobothris femorata, (1260)	and HCN, 209, 211-3, 1353 hybridization, 964, 965, 1331
Chrysomphalus— aonidum, 583	
aurantii, 209, 213	inverted frenching, 1341
obscurus, 486	iron deficiency, 1341 irrigation, 564, 973
Cider—	in Jamaica, 568
fermentation control by centrifuge, 1075	juices, 680, 1488
orchards in France, 759	juvenile characters in clones, 567
Cinchona—	magnesium deficiency, 575, 576, 1341, 1342
in Belgium Congo, 1028	mal secco, 978
in Indo-China, 1027	manganese deficiency, 976, 1341
in U.S.S.R., 1412	manuring, 190, 571, 572, 589, 1334, 1335,
Cinnamic acid, activation by ultra-violet light,	1520
1107	marl chlorosis, 1341
Cinnamomum Camphora, 995	maturity of fruit and grove conditions, 565

Citrus maxima, 566	Clover, manganese deficiency, 513
melanose, 580	Clubroot in Brassicae, 1273
mites, 215	Coal gas, source of ethylene, 1470
mottle leaf, 201, 202	Coccids—see also Scale insects
in Murrumbidgee Irrigation Areas, 77	on Black Sea Coast, 218
nitrogen deficiency, 1341	on citrus, 209, 212, 213, 218
nitrogen supplies for, 571, 572	Cockchafer, tree pest in Latvia, 102
nutrient elements, analysis of, 571	Cocoa—see also Cacao
packing, 312	production figures, 700
in Palestine, 189, 190, 1328, 1329	Res. Stat. Tafo, A. R. for 1937-8, 699
in Palestine, war plans, 1328	Coconut—
parthenocarpy, 1332	breeding, 642
Penicillium infection, 312, 659	in Ceylon, 1528, 1529, (1544)
pests, 209-19, 563, 583, 1349-52	dwarf, in Malaya, 289
pH for healthy growth of, 1336	groves, maintenance of, 290
phosphate for, 571, 572	lalang grass affects yield, 291
phosphorus content, 571, 572	in Malaya, 289
picking methods, 312	oil liberation, 1074
potassium in fruit, flowers and shoots, 571	Research Scheme Ceylon, A.Rs., 1528, 1528
production figures, 701	(1544)
propagation, 560, 566, 568, 569, 1331	seed selection, 641, 642
pruning, 580	tree hopper, 643
psorosis, 579, 979	in Zanzibar, 641
pulp in dairy rations, 1507	zygaenid moth, 1435
Pyrausta nubilalis, a pest of, 219	Codlin moth, 111, 483, 498, 874, (1260)
red spiders, 1350	Coffee—
rind breakdown, 208	arabica, selection, 1395
rootstocks, 197, 560, 562, 566, 568, 569, 961,	spp. in Madagascar, 248 Coffee—
967, 968, 1536	
rust mite, 583	Botrytis disease, 1402 Brazilian work on, (1398)
scales, 209, 212-4, 218, 583, 584, 586, 1351,	chromosome number: stomata relation, 139
1352	
seedlings, overwintering, 573	Conuga, 1396 cuttings, 1399
selection, use of mentors in, 969	effluent, 670
shoots, analysis of nutrient elements in, 571	flower bud structure, 1020
silicate manuring, 589 Citrus sinensis, photoperiodicity and flowering	genetic work in Brazil, (1398)
	grafting, 1400, 1401
hormone in, 7 soils, 1334	in Indo-China, 623
in S. Australia, 1326	interplanted with rubber, 1418
in Spain, 191	on Ivory Coast, 249, 1023
spray damage, 216	in Kenya, 622, 1394
spray residues, 586, 1354	manuring, 625, 1021
spraying, 209, 210, 214-6, 580-4, 1337, 1348,	pests in Belgian Congo, 1403
1352, 1354, 1355	in Philippines, 1534
storage, 312, 578, 1060, 1466-9, 1472-5,	processing, stream pollution by, 670
1482	processing by wet method, 669
superphosphate spraying to reduce acidity,	propagation, vegetative, 251, 621, 102
1337	1399-1401
thorniness, 567	pruning, 624
tissues, recovery of HCN from, 1353	quality, 622
topworking, 1339	Research Cttee E. Africa, Inter-territoria
Citrus trifoliata, 560, 562	1518
in Trinidad, 192	research station at Lyamungu, Moshi, 62
in U.S.A., 187, 192	root diseases, 1424
utilization in war, 1328	root growth, 250, 252
vein chlorosis, 1341	rootstocks, 251
wastage, 312, 659	selection on Ivory Coast, 1023
waste as fertilizer, 1340	selection in Tanganyika of arabica, 1395
water spot, 208	shading, 1022
zinc deficiency, 575, 1341	spraying, 626
Cladosporium—	stomata : chromosome number relatio
fulvum, 155, 1300	1397
Herbarum, 523	in Tanganyika, 1395
Cloth house for tomato growing, 1292	taproots, effect of bent, 252
Clove—	in Sumatra, 842
research in Zanzibar, 1543	and Tobacco, A.Rs Res. Sta. for Rubbe
seed germination, 1024	1936-7 and 1937-8, 715
- 0	

Coffee (continued)—	Currant (continued)—
vegetative propagation, 251, 621, 1023,	pests, 868
1399-1401	production figures, 701
wild species in Madagascar, 248	red, chlorosis in, 94
Colchicine used to induce polyploidy, 373	red, nutrient deficiencies, 463
Coleophora pests, (1260)	red, potassium for, 442
Coleoptera pests of fruit, 115	varieties, new, from N. York, 73
Colletotrichum potato disease, 1386	Cuttings—
Commercial horticulture in U.K. and Eire, (507)	apple root, 45
Composts— seed and potting, 1086	cassava, 1049 chemical treatment, see Growth stimulants
in tropics, 229, 1006	coffee, 1399
Confectionery, sub-tropical fruits in, 326	fruit tree, growth stimulants and, 776
Conifer cuttings and growth stimulants, 11, 17	leaf bud, 440, 830, 831
Coniosporium Mali, 99	lemon, 3, 970
Conopia myopiformis, 867	of ornamentals, 43
Conotrachelus nenuphar as pest of apple, 1243	root, apple, 45
Copal, 330	rooting affected by different factors, 175
Copper—	softwood or herbaceous, 43
carbonatespray and orange quality, 216, 1354	tea, 618, 1014
damping off control by 476,	transpiration of lemon, 970
deficiency in citrus, 575, 1341 deficiency and exanthema in pears, 467	vine, 1, 3 Cyanamide as weed killer, (503)
lime-lead arsenate for apple blossom weevil,	Cyanide effect on tea and tea pests, 1393
480	Cydia molesta, 875
in plant nutrition, (1133)	Cyprus—
Copra	carob in, 225
in Fiji, 337	Dep. Agric. A.R. for 1937, (726)
SO ₂ for curing in N. Guinea, 671	Cytogenetics, radiation and, 379
Corcova (leaf spot) in tobacco, 162	Cytological technique, 378
Cork diseases, 91-3, 1056	Cytology—
Cosmic rays, 1126	apple, 773
Cosmopolites sordidus, 647	cell wall, 377
Costa Rica, A.R. Minist. Agric. for 1938, 1530	cherry, (1184)
Costings, horticultural, in England, 404 Cotton—	pear, 773 water relations, 380
bollworm detection by X-ray, 104	water relations, 500
-seed oil as spray, 537, 542	Dactylella ellipsospora controls nematode, 1381
Cover crops—	Dacus ferrugineus, 1432
leguminous, in tropics, 1007	Daffodil experiments at Kirton, 182
for rubber, 273, 274	Dahlia—
Cracking of fruits, 853, 854	bud development, 184
Cranberry—	cuttings, 175
in Holland, 406	Damar resin, 330
leaf drop, 456	Damping off, 176, 476, 535, 617, 864, 1294
Crataegus mexicana, 795 Crete, decline of citrus in, 1330	Damson fertilizers, 69 Date Growers' Institute, 15th A.R., 692
Cricket bat willows, fertilizers for, 752	Date palm—
Cropping, factors affecting deciduous fruit, 455	bunch thinning reduces fruit rot, 292
Crown gall—	decline disease due to Omphalia spp., 293
in cherry, 859	growth stimulants and, 1436
in raspberry, 858	Sacaton, Ariz., investigations at, 217
tissue, 858	in saline soil, 1039
Cryptonol, a soil disinfectant, 500	storage, 655, 1520
C.S.I.R. Australia, A.R. for 1937-8, 691	in U.S.A., 588; 644
Cubé root, 516	Daylight length affects growth, 7, 13, 384, 385
Cucumber—	743, 907, 942-6, 1123, 1124 Deficiency(ies)—see also Photoperiodicity
diseases, 311, 523, 915 experiments at Cheshunt, 1285	calcium, 1283
heterosis, 522	in citrus, 1341
storage in peat dust, 305	diseases of potato, 897
Cuprous oxide in spray for tobacco blue mould, 537	manganese, 513, 528, 976, 1282, 1341
Curcuma xanthorhiza in Java, 258	symptoms—
Currant—	magnesium, 575, 576, 846, 1341, 1342
ancestors of cultivated, 832	nitrogen in tomato, 1291
black, see Black currant	phosphate, 910, 1291
in Holland, 406	potash, 94, 387, 463, 526, 911, 1291

Dehydration—	Dutch East Indies—
apple, 664	Res. Stat. for Rubber, Coffee and Tobacco
fig, 328	A.R. 1936-7 and 1937-8, 715
of fruits and vegetables, (325)	rubber in, 261
Delaware agric. Exp. Stat. A.R. for 1937-8, (726)	Dwarf tree cultivation, 416, 417
Denmark, apple varieties, 38	Economics, bibliography of agricultural, 340
Derris—	
cultivation, 231, 1380	Edinburgh and E. Scot. agric. Coll. A.R. fo
histology of rotenone in, 1518	1937-8, 695
references to, 234	Eggplant, Phomopsis disease, 1376
root characters, 233	Eire
selection, 231	commercial horticulture in, (507)
toxic principle, 1519	potato growing in, (507)
use, 494, 879	Elaeis guineensis, see Oil palm
wild forms, 232	Electricity—
Deudorix epijarbas pest of litchi, 284	common terms in, 740
Deuterophoma tracheiphila, lemon resistant to, 978	for forcing, 738
Development Commissioners 28th A.R., 693	for hot beds, 132
Devon, commercial horticulture in, (507)	Electroculture, 739
Dewberry, the Cameron, 441	Elements, minor, in nutrition, 388, 1129, 1130
Dichloro-ethyl-ether as greenhouse fumigant, 1284	Elm disease, transmission, 1095
Dictionary, German-English, botanical, 682	Elsinoe veneta, 440, (830)
Dioecious habit and failure to bear, 455	Emanations, fruit, 1065, 1459
Diospyros Kaki, see Kaki	Embryo development in apple and peach, 1171
Disease(s)—	Empoasca fabae, 173
control, some methods of, 456	Endymion non-scriptus, plant hormones and, 73
excess, in potato, 897	731
of fruits and hops, manual, 352	Entomology, recent advances, 1512
market, of grapes and small fruits, 1218	Entomosporium maculatum, 100
physiological, 91-4, 140, 143, 149, 161, 177,	Environment and flower structure, 919
physiological, 91-4, 140, 143, 149, 161, 177, 180, 201, 202, 208, 463-7, 511, 526, 528,	Enzymes in vine shoots, 451
575, 576, 853, 854, 897, 900, 910, 911,	Ephestia elutella in stored cacao, 1478
940, 976-8, 1213-7, 1282, 1283, 1341, 1342	Epimedium and Vancouveria, a monograph, 555
small fruit, market, 1218	Epitetranychus althaeae, 1350
in Sverdlov, U.S.S.R., 103	Epitrix parvula, (547)
vegetable, 1266	Eriophyes— lycopersici, (873)
virus, 95, 96, 147, 148, 162, 164, 165, 167,	pyri, (1260)
243, 244, 444, 445, 456, 468, 515, 651,	ribis, 484
855-7, 861, 895, 900, 908, 913, 922, 934, 958, (960), 979, 1010, 1040, 1041,	Eriosoma lanigerum—
934, 958, (960), 979, 1010, 1040, 1041,	apple resistance to, 485, 1535
1103, 1219, 1220, 1266, 1297, (1324),	biological control, 108, 871, 1239, 1540
1375, 1388, 1440, 1518, 1519	breeding for resistance to, 1140, 1240
Ditylenchus dipsaci, 183	and E. crataegi, 1239
Divining, bibliography on water, 27	treatment, 497, 870, 871
Dormancy—	Erosion, soil—
breaking bud, 430	control, (754)
breaking by growth stimulants, 1, 4, 430	in Jamaica, 1005
in potate tuber, breaking, 366, 1268-71	in theory and practice, 1142
seed, 1, 41, 518 Dothiorella rot of banana and orange, 1032	Essential oils, 605, see also Oil
	Ethyl carbylamine as dormancy breaker, 366
Double working—	Ethylene—
apple, 50, 418-20, 456, 783 fruit trees, 44	chlorhydrin for gladiolus corms, 557
pear, 419	for curing lemons, 1470
	dichloride control of peach borer, 482
Drainage a new method for citrus 974	for ripening, 313
Drainage, a new method, for citrus, 974 Dried fruit, production figures, 348	effect on plant growth, (369)
Drought spot in apple and pear, 91	thiocyanohydrin as dormancy breaker, 366
Drought resistance, leaf form and, 807	treatment of fruits and vegetables, 313
Drugs, medicinal, plant, 1080	Etiella zinakinella, 113
Dry land gardening, 24	Eucalyptus— citriodora growth from cuttings, 606
Durian, root disease, 294	propagation by cuttings, 604
Duster, a power, 1537	Exanthema—
Dusting	in citrus, 575, 1341
apparatus, 499, 1537	in pear, 467
with derris, 494	Experimental results, analysis of, 22
for disease control, 474, 476	Exports of deciduous fruits from S. Africa, 318
	1

braea maculata, 855	Fibre—
ijoa Fellowiana, 588, 637, 1030	examination of flax, 1313
rmentation industries, report for 1938, 696	palms, 285
rtilizers—	plants, boron effects, 1310
apple, 68-70, 434, 813, 814	production, flax, 170
avocado, 601	in Dutch Borneo, 237
bean, 1280	reports of Economic Cttee. on, 347, 1517
blackberry, 69 cabbage, 1267	Fig(s)—
cabbage, 1267	biochemical value, 328
cacao, 1411	cuttings, effect of growth stimulants on, 5
calcium cyanamide, 814	drying, 328
celery, 315, 1277, 1278	in Holland, 406
cherry, 69	nitrogen and mould in, 470
for chillies, 629	pruning, 1176
citrus, 190, 571, 572, 589, 1334, 1335, 1520	in U.S.A., 588
from citrus waste, 1340	Fiji, annu. Bull. divis, Reps. for 1937, (726)
coffee, 625, 1021	Fiji, annu. Bull. divis. Reps. for 1938, (1544)
currant, black, 829	Filberts—
currant, red, 442, 463	in Holland, 406
damson, 69	in Oregon, U.S.A., 86
for deciduous fruit trees, 1181	Fireblight, factors affecting susceptibility to, 1223
flax, 169	Fish poisons as insecticides, 128
geranium, 608	Flax-
gladiolus, 1318	diseases, 171
gooseberry, 69	effect of time of sowing on, (938)
green manuring in tropics, 1007	fibre production, 170, 1313
hop, 168	manuring, 169
injection into soil, 67	poppy and carrots in association, 1311, 1312
lance for manuring, 67	seed germination, growth stimulants and, 10
leaf diagnosis of needs, 432, 433, 1131	
lettuce, 143, 1275, 1520	of nuts, 1514
lime as, 68, 896, 1191	of small fruits, 1513
manganese, (1133)	Florida agric. Exp. Stat. A.R. for 1937-8, 1533
melon, 1191	Florigen or flowering hormone, 7, 8
minor elements, 388, 1129, 1130	Flower growing, 174-85, 548-58, 939-60, 1314-24
mushroom, 531	production, commercial, summer flowers and
narcissus, 1320	
needs, diagnosis, 432, 433, 1131	foliage, 346 seed storage, 1314
nitrogenous, 391, 470, 608, 629, 813, 815,	structure in tomato affected by environ-
816	ment, 919
N.P.K., 68, 69, 94, (136), 143, 168, 169,	supplies in 1938, 1516
275, 300, 301, 434, 625, 752, 817, 829,	Flowering—
906, 1181, 1277, 1279, 1318, 1320, 1334	artificial lighting and, 548
oil palm, 287	length of day affects, see Photoperiodicity
olive, 1369	phloem development and, 1141
peach, 69, 815-7	Folliculin, effect on asters, 946
pear, 69, 434	Fomes root disease in rubber, 279-81
pineapple, 300, 301	Food preservation, recent work on, 1054
plum, 69	Forcing
potassic, 387, 435, 442, 463, 1191, 1264,	by electricity, 132, 738
1267, 1280, 1290, 1291, 1318	methods, 341, 738
potato, (136)	Forest—
pyrethrum, 1256	products, minor, 1092
quince, 69	tree pests and diseases, 102
raspberry, 829	Formaldehyde—
rubber, 274-6, 636, 1423	control of Botrytis in grapes, 474
in spray form, 1132	damage to seeds overcome by phyto-
strawberry, 443, 447, 829	hormones, 16
tea, 1019	Formalin as soil disinfectant, 500
tomato, 526, 652, 1289, 1290,	Forsythia, growth stimulants in propagation of, 1%
tulip, 1320	Frameworking of fruit trees, 407, 413, 414
tung oil. 1363	France, pomology and cider making in, 759
vegetable, 69, 896, 1262-4, 1267, 1280	Fraxinus ornus, a rootstock for olives, 1367
vine, 69, 82, 470	Freezia, pre-treatment of, 954
watercress, 1279	Freezing—
willows, cricket bat, 752	death of plants from, 462
tola disease of oranges, 977	to preserve fruits and vegetables, 661
	1

Fe

Frenching of citrus, 575, 1341	Fumigation—
Frost—	of apples with methyl bromide, 308
apple resistance to, 461 citrus resistance to, 203-5, 574	with calcium and sodium cyanide plus
damage—	H ₂ SO ₄ , 892 citrus, 209, 211-3, 585, 1353
apple, 89, 459, 461	glasshouse, 1284
apricot, 459, 849	HCN, 209, 211-3, 892, 1353, 1358
avocado, 603	tents, 211
bilberry, 1212	Fundamentals of fruit production, 1510
blossoms, 849	Fungi, edible, 530
cause and prevention, 458	Fungicide(s)—
cherry, 90	bordeaux—see Sprays, bordeaux
in Italy in 1938, 848	comparison of, 489, 490, 492
at Long Ashton in 1938, 847	copper, 492, 493
meteorological factors affecting, 87, 88	laboratory tests, 490, 492
pear, 89	lime sulphur—see Sprays, lime sulphur
to plant cell, 462	preparation E, a sulphur, 121
walnut, 454, 851	rubber, 490
wind and, 87	sulphur, and photosynthesis, 880-3
to woody plants, 850	tetramethylthiuram disulphide, 494
and fruit growing, 457, 459	various, 118, 489-95, 880-3, 885-7, 1255
hardiness in plums, 1211	zinc-lime, 494
injury, 87-90, 454, 462, 847-51, 1207-12 protection—	Fungus diseases and nitrogen, 470 Fusarium—
in Algeria, 1208	avenaceum on tulips, 1321
by blowers, 1343	niveum on water melons, 408, (893)
by chemical mists, 1210	spp. on pea, 159
citrus, 975, 1208, 1343-7	wilt of musk melons, (293)
by heaters, 1208, 1210, 1344, 1346, 1347	Fusicoccum viticolum, 475
by infra-red rays, 975	,
lemons, 1345-7	Gambia—
paper covers for vines as, 460	Dep. Agric. A.R. for 1937-8, (726)
straw for vines as, 460	Dep. Agric. A.R. for 1938-9, (1544)
by tents, 1346, 1347	Garcinia atroviridis, 283
by training, 1345	Gardenia, chlorosis in, 940
vine, 460	Gardening, dry land, 24
by watering, 1209, 1210	Gas storage, 302, 306, 456, 657, 1054, 1450
by wind machines, 1343	Gaseous exchange, (754)
resistance—	Geisenheim am Rhein A.R. for 1937, 697
apple, 461	Genetics—
citrus, 203-5, 574 Fruit—	Antirrhinum, (181)
bud, apple, 428	apple, 1150 pear, 1151
bud fall, premature in peach, 1170	raspberry, (1187)
bud temperature, 1165	Georgia agric. Exp. Stat. A.R. for 1937-8, 698
cull, uses for, 681	Geotropism, (405)
drop in apples, 1167	Geranium—
emanations from ripening, 1065, 1459	fertilizers, 608
exports from Japan, 408	planting machinery, 607
exports from S. Africa, deciduous, 318	propagation, 175
Fruitgrowing—	Gerbera, mites on, 947
in Japan, 408	Germany, horticultural research in, 338
manuals, 1510, 1511	Germination—
in tropics and sub-tropics, 282	growth stimulants affect, 1, 3, 9, 10
Fruit—	lettuce, 517-9
juices and related products, 687, see also Juice	pome and stone fruit, accelerated, 41
marketing in New York, 1068 set in apple, 61, 887	rubber, 264 Gibberella bulicavis, 936
set, bactericides and fungicides affect, 887	Gibberella pulicaris, 936 Gladiolus—
set, in pears, pruning and, 1175	in Bermuda, 1522
stored, volatile products from, 1065, 1459	corms, dormancy breaking, 557
supplies in 1938, 1516	corms, shape correlated with growth, 956
transport to market, 316	potash manuring, 1318
tree training, 407	Russian varieties, 955
tree, failure to bear, 455	Glasshouse—
tropical and sub-tropical, 1325	construction, 1286
Fruiting in pear, physiology of, 800, 801	fumigation, 1284
Fuchsia propagation, 175	heating in U.S.S.R., 131

lasshouse (continued)—	Growth stimulants (continued)—
on a mixed farm, 510	and carbohydrate content, 363
rose culture in, 552	and dates, 1436
in U.S.S.R., 131, 207	electric polarity and, (369)
loeosporium—	estimation, 1118, 1120
album in stored apples, 1058	form in which given, 1105
perennans, (1234)	in form of dust, 354
old Coast, Cocoa Res. Stat. Tafo, A. R. for 1937-8,	
699	fruit development affected by, 1436
	and fruit tree cuttings, 776
ooseberry(ies)—	green tissue test, objects for, 358
fertilizers, 69	and Helianthus, 356
in Holland, 406	honey as, 737
pests, 868	and hops, 931
ourds, heading back, 521	inhibiting effects, upward, 359
rafting—	light and gravity affect action of, 357
bridge, 44, 412, 777	masking effect of, (1121)
coffee, 1400, 1401	
	and ornamentals, (1121)
fruit trees, 44, 412-4	and parthenocarpy, (1121)
growth stimulants and, 1, 5	and pecan rooting, 843
melon to alter time of fruiting, 76	and plant yield, 1113
technique, 44	and rest period in fruit trees, 430
vine, 464	review of work on, 1098, 1112
walnut, 454	root cuttings, regeneration by, 362
wax, 1156	in root tips, production, (1121)
ranadilla, 588, see also Passion fruit	and seeds, (1121), 1293
rape, see Viticulture	and should (1121), 1200
	and shrubs, (1121)
rapefruit—	and storage organs, (1121)
chemical analysis of, 576	talc as carrier, (1121)
cold injury in store, 1475	and tea, 1014
Foster, 566	testing chamber, 1119
frost resistance, 574	and tomato growth, 1293
magnesium deficiency, 576, 1342	at transplanting, 360
Marsh Seedless, 198, 566, 576, 578, 1326	tropic responses to, 356
naringin in, 578	as vapour, 1100-2
in Palestine, 189	in witigulture 1 5 924 1200
	in viticulture, 1, 5, 834, 1200
pectic substances in, 578	way in which they act, 355, 361
pitting in store, 578	Guava—
ripening, 198	jelly, 1506
rootstocks, 566	in U.S.A., 588
scab, 581	Guayule, 594
seedless, chemical composition, 576	
storage, 578, 1472-5, 1482	Gummosis—
in Trinidad, 192	in cherries, 1222
Triumph, 566	in citrus, 579
in U.S.A., 192	Gymnosporangium spp., 472, 1233, (1234)
Wolfens 500	Gypsum as fertilizer, 531
Walters, 566	Gypsy moth control, (506)
wrappers for fruit, 1482	<i>o</i>
Grasshopper—	
control, 1250	Hawaii agric. Exp. Stat. A.R. for 1938, 1534
glasshouse, (928)	Hawkes Bay, fruit growing in, 761
Freen-	HCN—
gram, 1050	
manuring, see Fertilizers,	fumigation, 209, 211-3, 892, 1353, 1358
	recovery from citrus leaves, 1353
Griphosphaeria corticola, 949	Heaters, orchard, 1208, 1210, 1344, 1346, 1347
Groundnut—	Heating—
economics, 999	glasshouse, 131
soils, 1035	soil, 132
Growth—	
inhibition by emanation from fruits, 1459	Helio-hothouses in U.S.S.R., 207
inhibition, see Growth stimulants	Heliopsis laevis, distribution of growth stimulants
stimulants 1-20 45 353-(369) 430 728-37.	in '2
776, 843, 931, 1014, 1098, 1099-(1121),	Hemicellulose metabolism in vine, 449
1100 1900 1903 1436	Hemp diseases—
1188, 1200, 1293, 1436	vascular, of manila, 1009
Growth stimulants—see also Plant hormones and	mosaic, of manila, 1010
Hormones	
and Arctostaphylos Uva-ursi, (1121)	Henna, 1025
and bean cuttings, (1121)	Herbicides, see also Weeds, (503), 1252-4
and bilberry cuttings, 1188	Heteroauxin—see Growth stimulants

Heterodera marioni—	India, agriculture and animal husbandry, 1936-
restriction by fungus, 1381	1535
in tomato, (547)	Indian Tea Association, A.R. sci. Dep. for 193'
Hexosamine in pineapple, 1046 Hibiscus rosa-sinensis in Ceylon, 1052	Indo-China, rubber in, 259, 262
Holland, fruits grown in, 406	Indolyl-acetic acid, etc.—see Growth stimulants
Honey as growth stimulant, 737	Indore, Progr. Rep. Inst. Plant Industry 1937-
Hong Kong Supt Bot., A.R. for 1938, (1544)	(1544)
Hop—	Injection—
cuttings, 6, 931	for diagnosis of mineral deficiencies, 433
diseases, 352	of fruit trees, 432, 433
downy mildew, 542, (938)	of soil with fertilizers, 67
English grown Americans, 929	Insect(s)—see also Pests
fertilizers, 168	beneficial, 1251
growth stimulants for rooting, 6, 931	leaf feeding, on shade trees, 117
morphology, (938) nettlehead, 855, 934	toxins, injuries due to, 1235
nettienead, 855, 934	vectors of disease, 95
pests of fruit and, 543 pickers' tokens, 932	visitors to fruit blossom, 802 Insecticidal plants—see particular plants
propagation by cuttings, 6, 931	Insecticides—see also under particular pests
red spider, 543, 937	Insecticide(s)—
rootstock canker, 936	at East Malling, 494
seed germination, (938)	fish poison plants as, 128
soils, 930	-fungicides, 405
varieties, 541, 929, 1307, 1308	injection, 889
Verticillium wilt, 855, 935	naphthalene derivatives, 122
weight variation per bushel, 933	nitrophenols, 122
Hormones—see also Growth stimulants and Plant	in Nova Scotia, 496
hormones	ovicides, 122, 123
affect crotch angles in apple trees, 1168 florigen and flowering, 7, 8	of plant origin, 234 spray concentrates, 889
induction of, by capping, 1122	thiocyanates, 122
leaf growth, (1121)	various, 119, 495, 497, 890, 1255-7
for rubber propagation, 1421	Intermediate day plants, 743
Horticulture, Miscellaneous, 1-27, 353-405, 727-54,	Intermediate day plants, 743 Iodine control of <i>Botrytis</i> in grapes, 474
1099-1142	Iris, nematode of bulbous, 183
Hotbed—	Iron deficiency in citrus, 1341
electric, 132	Irradiation of lettuce seedlings, 1274
heating in U.S.S.R., 131	Irrigation—
various, 738	apple, 818
Hot water treatment of bulbs, 182, 183, 1322	citrus, 564, 973
Houghall Record 1938, 694 Hyacinth—	furrow, a small brick, 25 overhead, 402
bulbs, size influences chemical composition,	potato, 1272
1319	deep well, 749
in tropics, 957, 1522	Italy—
Hybridization, citrus, 964, 965, 1331	Clementine orange in, 562
Hydrangea—	fruitgrowing in Northern, 1144, 1145
nutrient deficiency symptoms, 180	
propagation by cuttings, 17, 175	Jaboticaba in U.S.A., 588
Hylobius abietis, a tree pest, 102	Jaggery storage, (1483)
Hypnum sericeum, root promoting qualities, 734	Jamaica Dep. Agric. A.R. for 1937, (726)
	Japan, agricultural research in, (754), 961 Japanese fruits, 408
Ice formation in plants, 462	Java—
Imperial Bureau of Horticulture, tech, Communs.	medicinal plants in, 258
11 and 12, 687, 1098	report on visit to, 1090
Imperial College of Tropical Agriculture A.R. for	Jersey Cttee. Agric. A.Rs. for 1936 and 1937, 70
1937-8, (726)	Juglandaceae—see also Walnut
Implements used in Dutch East Indies, 1004	flower morphology, 453, 1204
Inarching— apples, 777	wood anatomy, 1204
deciduous fruit trees, 777, 1177	Juice—
Inbreeding of apples, raspberries and straw-	apple, 678, 679, 687, 1076, 1077, 1484, 148 citrus, 329, 680, 1488
berries, 40	cull fruit used for, 681
Incompatibility—	flash pasteurization, 678, 1485
in cacao, 1406-9	fruit, 678-81, 687, 1078, 1085, 1486
between deciduous stocks and scions, 415	fruit, in Belgium, 1486

Juice (continued)—	Lemon (continued)—
fruit, conference, 1078	cuttings, hormones in relation to rooting,
fruit, manual, 687, 1085	cuttings, transpiration, 970
mandarin, 329	frost protection by tents, 1346, 1347
preservation, 1487	frost protection by training, 1345
vegetable, 1079, 1085	frost resistance, 205, 574
Jujube-	fruit growth and soil moisture, 972
grafting, 1042	under glass, 207
in U.S.A., 588	mal secco in, 978
111 0.0.11., 000	marketing, 188
	rootstocks for, 968
Kaki—	rootstocks, rough lemon as, 566
in Italy, 991	seedlings, overwintering of, 573
in Japan, 961	size affected by soil moisture, 972
in North Africa, 990	Lemuropisum edule, fruit tree for dry tropics, 1034
pollination, 455	Lepidosaphes—
ringing to reduce fruit drop, 1364	beckii, 209, 218
rootstocks, 961	gloveri, 218
Kalanchoe Blossfeldiana, soil for, 951	pinnaeformis, 1352
Kale, growth stimulants and, 361	
Kapuskasing Dom. exp. Stat. results of experi-	Leprosy, anti-lepric species, 631, 632
ments 1931-6, 707	Lettuce-
Kentville Dom. exp. Stat. results of experiments	breeding, 145
1931-6, 708	cabbage, 143
Kenya—	in California, 144
Dep. Agric. A.R. for 1937, (726)	cultivation in N. Carolina, 141
pyrethrum in, 610	cultivation in N. York, 130, 912
Kirton, bulb experiments at, 182	diseases, 142, 520
Kitul storage, (1483)	downy mildew, 142
Kohlrabi, nutrient deficiency symptoms, 143	genetics, colour factors, 145
Kok-saghyz, a rubber plant, 278, 996, (1427)	germination, 509
Körnik, rootstock investigations at, 779	irradiation of seedlings, 1274
Kudzu, growth stimulants and, 365	manuring, 143, 1275, 1520
, 8	marketing, 130, 144
	mosaic, 913, 1276
Labiates in the tropics, 227	nitrogen nutrition, 1275
Labour requirements, Californian seasonal, 750	nutrient deficiency symptoms, 143, 910, 911
Lalang grass—	phosphate deficiency tests, 910
effect on coconut palms, 291	potash deficiency tests, 911
effect on rubber, 272	ring spot disease, 520
Lancashire, commercial horticulture in, (507)	seed dormancy, 518
Land Settlement Assoc., horticultural work of,	seeds, 517-9, 1520
(507)	Leucaena glauca, 228
Laspeyresia molesta, 1245	Library(ies)—
Latex, physiology of, 392	Dep. Agric. N.S. Wales, (1094)
Latvia, Antonovka apple in, 1147	international directory of agricultural, 1097
Latvian forests, tree pests and diseases, 102	of Massey agric. Coll., periodicals, 1538
Lausanne, Stat. féd. Ess. vit. A.R. for 1937, 709	of Ministry of Agriculture, London, book
Lawsoniana inermis, 1025	and periodicals, 1093
Lead	Light effect on tomato, 526
arsenate and quality in orange, 216	Lightning strike in vine, 852
spray residues, 125, 216	Lilac propagation, growth stimulants and, 17
Leaf—	Lilium—
diagnosis, 1131	longiflorum, development of dormancy, 132
epinasty tests with chemical vapours, 1102	regale, bud development, 184
growth hormones, (1121)	spp. in Japan, 408
hopper, plum and peach, (506)	Lily of the valley, linseed oil emulsion improve
rollers, 496	growth, 512
scorch, 70, 94	Lime-
Lecanium hesperidum, 209	as fertilizer for apple, 68
Legislation—	-potash law affecting rose growth, 1317
agricultural, in Ceylon, 1002, 1378	propagation and rootstocks for, 568
fruit growing, in Germany, 1143	sulphur—see Sprays
soil erosion, 1379	in vegetable garden, 896
Lemon—	Listroderes obliquus, (547)
bud selection, 1333	Litchi—
in California, 186, 188	cultivation in U.S.A., 588
colouring artificially, 1470	Deudorix epijarbas a pest of, 284
curing, 1470	Little leaf, 466, 1214, 1215

Loganberry—	Mango-
cane spot, 440, (830)	bud differentiation, 1429
canning, 1492	Carabayo, 1429
propagation, 440, 830, 831	cultivation in Palestine, 638
training, 440	cultivation in U.S.A., 588
Lonchocarpus—	fruit fall, 1430
cultivation, 611	fruit fly, 1432
insecticidal plant, 234	pests in Dutch East Indies, 1431
Long Ashton, fruit breeding research, 767	in Philippines, 1534
Lophodermium Pinastri, 102	propagation, 1428, 1536
Loquats in U.S.A., 588 Low Temperature Res. Stat. Capetown A.R. for	side grafting, 1428
1936-7, 1542	Manual—
Lupin, photoperiodicity and growth stimulants	apple production, commercial, 345
in, 7, 13	apple production, intensive systems, 343 bees, 1088
Lyamungu—see Moshi	budgrafting Hevea, 1413
Lychee—see Litchi	diseases of fruits and hops, 352
Lygus pratensis—	entomology, recent advances, 1512
as pest of apple, (1260)	flower production, commercial, 346
as vector of soft rot in celery, 146	fruit juices, 687, 1085
Lyonetia clerkella, 867	fruit production, 1510, 1511
	plant hormone, 1098
Macaco nut, 633	potting composts, 1086
Macadamia ternifolia—	rootstocks, deciduous, 339
in Hawaii, 640	salad crops, 351
in the Philippines, 1534 processing, 640, 1495	seed and potting composts, 1086
Macropsis trimaculata, (506)	spraying, commercial and fruit tree, 1089 tree fruits, deciduous, 344
Macrosiphon solanifolii, 900	
Madras Presidency—	Manure, lime and potash, interaction, 1191 Manuring, see also Fertilizers
Dep. Agric. A.R. sub. Officers for 1937-8,	Manuring affects taste in vegetables, 1262
(1544)	Market gardening, (507)
Dep. Agric. Rep. Operations 1937-8, (1544)	Marketing fruit and vegetables in N. York, 1068
Work of agric. Stats., 1536	Marrow, vernalization, 916
Magnesium deficiency—	Marssonina panattoniana, 520
in citrus, 575, 576, 1341, 1342	Massalombarda, fruit growing near, 1144, 1145
in deciduous fruit, 846	Massey agric. Coll., periodicals in library, 1538
Mahaleb as cherry rootstock, 1162	Maturity affects storage, 654, 655
Maine agric. Exp. Stat., report of progress 1937-8,	Mauritius Dep. Agric. A.R. for 1937, (726)
1537 Malanas anatoni 070	Mealorub, a rubber powder, 333
Malassocoma amaricana 112	Medicinal plants— in Java, 258
Malacosoma americana, 112	seed photographs, 1309
Malaya— coconuts in, 289	Medlar-
report on visit to, 1090	in Holland, 406
Maleic acid in fruit preservation, 1453	Japanese, see Kaki
Malling stocks, relation to Wealthy and McIntosh,	leaf blight, 100, 855
apples, 789	Melaleuca alternifolia, 255
Malta—	Melolecanium deltae, 1351
citrus in, 563	Melolontha spp. as tree pests, 102
Dep. Agric. A.R. for 1937-8, (1544)	Melon—
Malus—	diseases, market, 311
pollination studies, 59	Etiella zinakinella, a pest of water, 113
prunifolia as rootstock, 786	fruiting time altered by grafting, 76
Mandarin—	Fusarium wilt, 408, (893)
Clementine, 562, 966	heading back, 521
in Colchis, soil affects quality, 1338	manuring, 1191
frost resistance, 574	storage, 310, 1465
juice, 329 seedlings, overwintering, 573	Mentha spp. in tropics, 227
Suhuikan, 193	Mentors, Mitchurin's use of, 794, 810, 969
winter planting, 206	Mercury, damping off control, 476 Mesquite eradication, 1001
Manganese—	Meta for slugs, 235, 504, 1382
and citrus, 976, 1241	Methyl bromide fumigation of apple, 308
deficiencies, 513, 528, 976, 1282, 1341	Methylene blue effect on hop cuttings, 6
estimation, 395	Michigan agric. Exp. Stat. Rep. for 1936-8, (726
as plant nutrient, (1133)	Microclimate in cherry tree, 62

Mildew(s)—	Naphthalene derivatives as ovicides, 122
lettuce, 142	β -naphthoxyacetic acid, a new growth stimulant,
vine, 79, 80, 101, 1140, 1221, 1226	1109
Minnesota agric. Exp. Stat. A.R. for 1936-7, (726)	Narcissus—
Minor elements in nutrition, 388, 1129, 1130	bulb treatment, 959, 1322
Mitchurin—	fertilizers, 1320
apples, 410	flowering acceleration, 952
breeding, 769-71	mosaic, 958
pears, 35, 411	National Mark Scheme, 320
selected works, 1087	Nebraska agric. Exp. Stat. 52nd A.R., (1544)
Mite(s)—	Nectria galligena, 863
broad, 947	Nematode—see also Heterodera
citrus, 215, (1355)	chrysanthemum, controlled by heating, 456
cyclamen, 947	restriction by fungus, 1381
on hop, 543, 937 on mushroom, 532	strawberry, 456 violet, 456
red spider, in greenhouse, 545	New Guinea, cacao in, 627
	New South Wales, breeding in, 768
on strawberry, 445, 872 walnut, (1355)	New York—
Mole trapping, 129	fruit soils, 64, 820, 821
Moon and plant growth, 1126	St. hort. Soc., 84th annual meeting, 712
Morden Dom. exp. Stat. results of experiments,	Nicotine-
1931-7, 711	capsid control, 487
Morello cherry, 1162	determination on apple, 501, (1260)
Morus, systematics, 1149	as quarantine spray, 214
Mosaic—	sprays and bees, 127
cassava, 243, 244, 651, 1518, 1519	sulphate and bentonite, 496, 498
celery, 147	Nicotinic acid, a growth factor, (1121)
lettuce, 913, 1276	Nigeria Dep. Agric. A.R. for 1937, 713
narcissus, 958	Nilaoebast fibre, 237
raspberry, 856	Nipa palm—
tobacco, 167	as fibre plant, 237
Moshi, coffee research station, 621	sap yield, 242
Moss, sphagnum, root-promoting qualities, 734	sugar production, 335
Moth—	Nitrogen—
codlin, 111, 483, 498, 874, (1260)	apple requirements of, 813
diamond back, 1246	in apple shoots, 53
gypsy, (506)	and citrus, 571, 572
oriental peach, 875, 1245	and fungus diseases, 470
zygaenid on coconut, 1435	metabolism in Kelsey plum, 431
Mottle leaf in citrus, 201, 202	and mould, 470
Mulberry—	nutrition of lettuces, 1275
growing, 1148	nutrition, a review, 391
in Holland, 406	rootstock effect on content, 53
in Japan, systematics of, 1149	Nitrophenols as ovicides, 122
Mulching—	N. Carolina agric. Exp. Stat. 60th and 61st A.Rs.,
effect on potassium, 435	714, 1539
raspberry and strawberry, 447	N. Rhodesia Dep. Agric. A.R. for 1938, (1544)
Mundulea spp., insecticidal plant, 234, 1518, 1519	Norway, nursery investigation, 43 Notes on books and reports, 338-52, 682-726,
Murrumbidgee Irrigation Areas, fruit growing, 77	1085-98, 1510-44
Musa, see Banana . Mushroom—	Nursery—
artificial composts for, 160	investigations in Norway, 43
cultivation, 160, 529, 530, 927	pests, Lethrus apterus, 481
fertilizers, 531	Nut, see also particular nuts
pests, 532, (928)	flora, 1514
yields, 927	Nutrient deficiencies, see Deficiencies
Mustard, growth stimulants and, 10, 13	Nutrition—
Mutations, 375, 774, 1153, 1333, see also Sports	minor elements, 388, 1129, 1130
Mycobacterium album, producer of growth stimu-	nitrogen, 391
lant, 19	not through roots, 1132
Mycorrhiza—	Nyasaland A.R. on agriculture for 1937 and 1938,
in phlox, 551	(726), (1544)
review of work on, 1163	
in Tropaeolum, 551	Ohio
Mysore agricultural calendar for the year	agric. Exp. Stat. 56th A.R., (1544)
Pramadi, (1544)	apple growing in, 65
Myzus persicae a virus vector, 900	peach growing in, 34

Oil—	Orange(s) (continued)—
carnation, substitutes for, 336	growth periodicity, 196
coating for preserving fruit, 1479, 1480, 1482	heating affects storage, 1469
emulsions in practical horticulture, 512	Jaffa, 189, 190
emulsions as sprays, 486, 487	of Kwangtung, 962
from grape pips, 1498	lead arsenate on, 216
liberation, bacterial, 1074	leaf transpiration, 971
and oil seeds, vegetable, production figures,	mandarin, 193, 562, 966, 1338
1091	navel, 186, 208
palm	navel, fruit development, 963
diseases, 1038	nitrogen distribution in, 571, 572
manuring, 287	nutrient elements, analysis of, 571
pests, 286	periodicity in growth, 196
stations on Ivory Coast, 1037	pests, 1349
uniformity trial, 288	phosphate requirements, 571, 572
palms of Brazil, 285	potash requirements, 571
plant, Melaleuca alternifolia, 255	rind breakdown in navel, 208
plants, boron and, 1310	seedlings, overwintering, 573
plants for Moscow exhibition, 605	shoots, analysis of nutrients in, 571
sprays, 120, 123, 124	sour, as rootstock, 566
tobacco seed, 1499	in Spain, 191
Oligonychus ulmi, 1237	sprays affect quality, 216, 1354
Olive—	storage, 1466-9
bud differentiation, 1368	Suhuikan, 193
Crimean, 988	trifoliate, 560, 562, 961
crusher and mill, 1496	Valencia Late, 186, 1337
cultivation, 588, 1366	vitamins, 1060, 1447
cuttings, growth stimulants and, 5	water spot of navel, 208
diseases, 1370	wrappers for fruit, 1482
drying the black, 1073	Orchids in Ceylon, 1003
floral biology, 989	Oriental peach moths, 875, 1245
fruit morphology, 226 grafting on Fraxinus ornus, 1367	Origin affects growth in apples, 811 Ornamentals—
in Greece, 1366	in Canada, 174
identification, 1365	chlorosis, 177
knot disease, 1370	damping off affected by soil treatments, 17
manuring, 1369	pests, 112, 174
oil extraction machinery, 1496	propagation, 11, 43, 230
oil production, 593	Orthosiphon stamineus, 258
pollination, 989	Ovicides, see particular sprays
processing, (1497)	Oxalates in pineapple, 1061
propagation, 5, 1367	Oxygen—
rootstocks, 1367	regulates dormancy in potato, 1271
seed germination, 592	and root growth in soil, 422
in U.S.A., 588	Ozone as aid to cold storage, 456
varieties, 1365	and the control of th
Oncoba echinata, 631	Packers under British National Mark Scheme, 32
Onion—	Packing, processing and plant products, 319-3
bulb development, 904	662-81, 1072-84, 1484-1509
chemical anatomy, 903	Packing—
germination, 509	cases, steam sterilization of fruit, 319
seed storage, 902	citrus, 312
thrips, 516	grapes, 1203
Ontario horticulture, 31	Paleacrita vernata, 876
Orange(s)—	Palestine—
acidity reduced by superphosphate spray, 1337	agriculture in, 1096
calcium requirements, 571	citrus industry, 189, 199
carotene in, 577	citrus war plans, 1328, 1329
Clementine, 562, 966	soils, manurial needs of, 1356
cold injury in stored, 1475	Palms—see also Oil palm
cooling and under-cooling affects storage,	African, economic uses, 1434
1468	of Brazil, and their uses, 285
diseases, 1349	manuring of oil, 287
Dothiorella rot, 1032	nipa, see Nipa
economics in U.S.A., 187	oil, carotene in, 334
fetola disease in, 977 flower and fruit, nutrient elements in, 571	pests of oil, 286
	Pissaba, 1036
frost resistance, 574	uniformity trial, 288

Papaw—	Pear (continued)—
cultivation, 1371, 1372	genetics, 1151
mosaic, 1040, 1041	in Holland, 406
in the Philippines, 1534	leaf blister mite, (1260)
in U.S.A., 588, 638	Mitchurin varieties, 35, 411
Paprika breeding, 137	in New York and Chicago markets, 1070
Paradichlorbenzene control of blue mould of tobacco, 540	pollination, 57, 59, 60, 425, 427 production figures, 701
Paratetranychus pilosus, 1247	pruning, 1175
Paratrioza cockerelli, 527	respiration and ripening, 306
Paris Green, 481	rootstocks, 47, 415, 790, 791, 795, 1159
Parthenocarpy—	scab, 494
cause, 1332	seed dormancy, 1152
auxins and, 736, 1332	seedling rootstocks, 790, 791
Passion fruit, grease spot, 591	Sphaeropsis Malorum on, 471
Pasteurization of juice, flash, 678, 1485	sports, 1153
Pea(s)—	stony pit, 1220
canning, quality of, 1082 dried, 1493	storage, 306, 1454 in Switzerland, 39
Fusarium wilt, 159	topworking, 778
growth stimulants and, 359	varieties, 35, 39, 63, 406
manganese deficiency and marsh spot in,	Peat dust for storing fruit and vegetables, 305
528, 1282	Pecan—
seed germination, (938)	growth, 1205
storage affects cooking, 323	growth stimulants and rooting of trans
weevil, 104, 157, 158	planted, 843
Peach—	root composition, seasonal variation in, 841
borer, 482	rootstock effects, 840
brown rot, 1458	Sacaton, Arizona, investigations at, 217 scale insects on, 486
dormancy and growth stimulants, 430 embryo growth, 1171	soils, 842
fertility, effect of pruning on, 71	transplanting, growth stimulants and, 843
fertilizers, 69, 815-7	Pectic substances and naringin in grapefruit, 578
in Florida, (1184)	Penicillium—
frost hardiness, 459	expansum in apple, 663
fruit bud fall, 1170	spp. in oranges, 312, 659
growing in Ohio, 34	Pennsylvania agric. Exp. Stat. A.R. for 1937-8
growing in Rhone valley, 1146	(726)
growth-inhibiting emanation, 1459	Pennsylvania agric. Exp. Stat. guide to, 37
hardiness, 459	Peony, single and Japanese, 941 Pepper on living supports, 257
leaf hopper, (506) little leaf, 1215	Peppermint, 544
moth, oriental, 875, 1245	Perilla spp. in tropics, 227
in Murrumbidgee Irrigation Areas, 77	Periodicals, title abbreviations, 685
nematode resistant, 1520	Persea spp., see Avocado
in Western New York, 1071	Persimmon—
photoperiodicity and flowering hormone in, 7	Japanese, see Kaki
pruning and fertility, 71	in U.S.A., 588
root growth, 799	Pest(s)—see also particular pests
rootstocks, 415, 1161	and diseases of plants in E. Siberia, (1515)
storage, 1457, 1458	legislation in Ceylon, 1002, 1378 in Sverdlov, U.S.S.R., 103
transplanting, 1184 varieties in Holland, 406	in Sweden, 478
yellows, 456	toxins, injuries due to, 1235
Pear—	in tropical fruits, 1066
	Petunia, breeding for double flowers, 179
breeding, 37, 411	pH
copper deficiency in Bartlett, 467	for citrus and walnuts, 1336
cytology, 773	for strawberry soils, 828
dormancy and growth stimulants, 430	Phaseolus aureus, 1050
double working, 419	Phenological plant protection calendar, 683 Phenomenal Berry, 440, 830
exanthema, 467	Phloem development and blossoming, 1141
fertilizers, 69, 434 frost damage, 89	Phlox Drummondii, mycorrhiza in, 551
frost hardiness, 459	Phomopsis vexans in eggplant, 1376
fruit set, pruning and, 1175	Phosphate-
fruit vegetatively produced, 63	in citrus manuring, 571, 572
fruiting physiology, 800, 801	deficiency in lettuce, 910

Pe

Pe

Phosphorus isotopes for studying salt movement	Plougastel, strawberry growing, 822
in plants, 1138	Plum
Photometer, a photo-electric, 397	brown rot, 477
Photoperiodic induction influenced by environ-	curculio as apple pest, 1243
ment, (1125)	fertilizers, 69
Photoperiodicity—	frost hardiness, 459
in artichoke, 1123	growth inhibiting substance evolved from
and calceolarias, 548	ripening, 1459
and chrysanthemums, 7, 13, 942-5	hardy varieties, 1211
growth substances and, 7, 13, 946	in Holland, 406
growth substances and, 7, 13, 946 intermediate day plants, 743	leaf hopper, (506)
in Pinus resinosa, 384	nitrogen metabolism of Kelsey, 431
review of work on, 385	physiological breakdown, 1456
in spinach, 907	pollen tube growth, 56
and vitamin C, 1124	pollination, 56, 57, 59, 426, 805
Photosynthesis in apple leaves affected by sprays,	rootstocks, 47, 415
880-3	sprays, 495
Phragmidium rose rust, 553	storage, 1455, 1456
Phyllocoptes oleivorus, 583	in Switzerland, 39
Phyllosticta angulata, 855	thinning, 819
Phyllosticta prunicola, (893)	varieties, 39, 406
Phylloxera vastatrix, 79, 109, 110, 479	Plutella maculipennis, 1246
Phytohormones, see Auxins, Hormones, etc.	Polarograph, bibliography on, (405)
Phytomonas—	Pollen—
Begoniae, 550	germination of apple, 803
Medicaginis var. phaseolicola, 534	germination of apple, 803 germination, boron and, 36
Passiflorae, 591	germination tests, medicine for, 835
Solanacearum, 1044	
Phytophthora—	longevity, 804
Cactorum, 456	storage, rubber, 263 tube growth, 56, 1166
cryptogera and erythroseptica, 558	
parasitica controlled by Trichoderma, 1302	Pollination—
Picea excelsa cuttings, effect of growth stimulants	apple, 55, 57, 59, 60, 61, 424, 427, 803, 116
on, 11	by bees, 806, 1088
Pili nut, 1433	cacao, 254, 1406-9
Pineapple—	cherry, 56-8, 1164
for canning, 299	chestnut, 844
composition, 1046	deciduous fruit, 427
fruits, growth of, 1047	insect visitors and, 802
fruit rots, 660	olive, 989
hexosamine in, 1046	pear, 57, 59, 60, 425, 427
manuring, 300, 301, 649	plum, 56, 57, 59, 426, 805
and nitrogen assimilation in nutrient	rubber, 263
solution, 649	Polyploids obtained by use of colchicine, 373
oxalates in, 1061	Polypodium aureum, freezing experiment with
propagation, 1438	462
selection, 1441	Pome fruits—
in U.S.A., 588	germination without dormancy, 41
varieties, 299	seed storage, 42
wilt, 1439	Sphaeropsis Malorum in Crimean orchard
yellow spot virus, 1440	471
Pissaba palm, 1036	Pomegranates in U.S.A., 588
Pistache—	Poncirus trifoliata, 560, 562, 961
Central Asiatic forms, 596	Poppy, flax and carrot grown together, 1311, 131
cultivation methods, 998	Port Elizabeth precooling store, 1542
Sacaton, Arizona, investigations at, 217	Pot experiments, vegetable, 894
scion grafting, 597	Potash—
in Uzbekistan, 595	deficiency symptoms, 387, 526, 911, 1291
vegetative propagation, 997	deficiency in tomato, 526
Plant hormones—see also Growth stimulants	effect on sweet potato, 615
for carnation propagation, 1315	for gladioli, 1319
use in Bermuda, 1522	Potassium—
Plant protection of deciduous fruits, 87-129,	affects apple seedling, 70
455-506, 845-93, 1206-60	absorption by apple trees, 442
Plant Protection Institute, Leningrad, summary	chloride injury, 463
of work in 1936, 704	and chlorosis, 94
Plasmodiophora Brassicae, 1273	and citrus growth, 571
Plasmopara viticola, 79, 80, 101, 1140, 1221	deficiency, 94, 387, 463, 1291

Potassium (continued)—	Processing (continued)—
fertilizers, 387, 435, 442, 463, 1191, 1264, 1267, 1280, 1290, 1291, 1318	tea, (668) tobacco, (173), 1499, 1508
isotopes for studying salt movement in	turmeric, 256
plants, 1138	Progress Report Inst. Plant Indust. Indore for
nitrate injury, 463	1937-8, (1544)
and red currants, 442, 463 in soils affected by straw mulch, 435	Propagation, see also Auxins, Breeding, Budding Rootstocks, etc.
sulphate injury, 463	Propagation—
and tomato metabolism, 1290	almond, 839
and vegetable growth, 1264	apple, 44-6, 50, 418-20, 456, 775, 777, 78
Potato—	1154, 1156, 1177
ascorbic acid in, 515 bud growth inhibition, 1117	avocado, 1374 banana, 1437
Canadian seed, 135	bilberry, 1188
CO ₂ storage of, 1270	blackberry, 440, 830, 831
Colletotrichum disease, 1386	Bougainvillea, 734
deficiency and excess diseases, 897 in Eire, (507)	cacao, 1405 carnation, 1315
growth substances and, 366	cassava, 1049
irrigation, 1272	citrus, 560, 566-9, 969, 1331, 1339
manganese deficiency, 513	coffee, 251, 621, 1023, 1399-1401
manuring, (136)	dahlia, 175
nutrition, 897 rest period—	deciduous fruit trees, 777, 1177 eucalyptus, 604
effect of length of, 1269	fig, 5
shortening, 366, 1268	geranium, 175
shortening, CO ₂ affects, 1270	hop, 6, 931
shortening, O ₂ affects, 1271 seed in Eire, (507)	hydrangea, 17, 175 jujube, 1042
seed in S. America, Canadian, 135	lemon, 3, 970
sprouting, 514	lilac, 17
sweet—	lime, 568
breeding, 613, 1361	loganberry, 440, 830, 831
chimaeras, 1362 cultivation, 1360	mango, 1428, 1536 nursery work in Norway, 43
leaf beetle, 614	olive, 5, 1367
manuring, 615	ornamentals, 11, 43, 230
potash affects, 615	pear, 419, 778
propagation, 615 varietal suitability for drying, 616	pecan, 843 Picea excelsa, 11
in tropics, 1386	pineapple, 1438
vernalization, 514	pistache, 597, 997
virus problem, 468, 515	potato, 135, (507), 514
vitamin C in, 515	rose, 17, 1316 rubber, 267-9, 1413-6, 1421
Potometers, 396 Precooling of fruits, 303	shrubs, 11
Preservation by freezing, 661	strawberry, 445
Prickly pear, chemical composition, 1357	tea, 618, 1014, 1391
Proceedings Association of Special Libraries and	Tradescantia, 3, 367
Information Bureaux, 1521 Processing—	trees and shrubs, 43, 230 vegetative, see particular plant
apple, various, 1083, 1084	vine, 1, 3, 5, 464, 1200
cacao, 1500-4	walnut, 454
cherries, 1072	Protoparce spp. on tobacco, (547) Prune—
citrus for dairy rations, 1507 coconut, 1074, see also copra	Italian, products of, 324
coffee, 669, 670	Sclerotinia fructicola, disease of, 1229
copra, 337, 671	Pruning—
fruit, low grade, 681	apple, 423, 436-8, 1227
grape stones, 1498	citrus, 580 coffee, 624
guava, 1506 macadamia, 640, 1495	and cropping, 455
nipa palm, 335	deciduous fruit trees, 1174
olive, 1073, 1496, 1497	and disease incidence, 1227
palm oil, 334	figs, 1176
prunes, 324	and fruit set, 1175

Pruning (continued)—	Raspberry (continued)—
pear, 1175	mulching, 447
and storage quality of fruit, 436	nitrogen translocation in, 1186
tea, 620	pests, 868
Prunus—	varieties, 73, 406, 439
hortulana and mexicana as peach rootstocks,	yellow blotch curl, 96
1161	Rat destruction, 236
Mahaleb, as cherry rootstock, 1162	Rays— infra red, for frost protection, 975
pollen tube growth, 56 pollination studies, 59	ultra violet for storage, 304
Psalliota campestris, 531	X- for seed pest detection, 104
Pseudococcus brevipes, 1439	Recent advances in entomology, 1512
Psammophytes, 748	Red currants—
Pseudomonas-	chlorosis in, 94
fluorescens, produces growth stimulant, 19,	nutrient deficiency symptoms, 463
20	potassium for, 442
mors prunorum, 860	Red mite of fruit trees, 1247
prunicola, 860	Red spider—
tumefaciens, see Crown gall	on hop, 937
Pseudoperonospora Humuli, 542, (938)	and meteorological conditions, 114
Psila rosae, 134	control, 545, 870
Psyllia mali, 123	the fruit tree, 1237
Pulvinaria floccifera, 1393	Refrigeration of vegetables in transit, 317 Reinvigoration by inarching, 777, 1177
Pummelo as rootstock, 566 Pyrausta nubilalis, 219	Reisig disease of vines, 465
Pyrethrum—	Report—see also A.R.
bibliography, 234	Calif. agric. Exp. Stat. for 1936-8, 1524
for codling moth, 111	Canada Dom, Botanist for 1935-7, 1525
in Italy, 1257	Kapuskasing Dom. exp. Stat. 1931-6, 707
in Kenya, 610	Kentville Dom. exp. Stat. 1931-6, 708
manuring, 1256	Morden Dom. exp. Sta., 1931-7, 711
seed, 1385	on visit to Malaya, Java, Sumatra and
Pyrus—	Ceylon, 1090
palustris, Septoria acicola control on, 456	Research—
pollination studies, 59	in Germany, horticultural, 338
salicifolia for breeding, 411	in England, fruit, 755
Pythium spp., 864, (893)	in 1937, 349
Overentine fruit	Resins, 330 Respiration—see also Storage
Quarantine, fruit— in Ceylon, 1002, 1378	in apples, 14, 1452
disinfection, 214	in fruit, 1063, 1064
in Japan, 408	in pear, 306
Quebec, apple costs and production, 33	pigments, effect of growth stimulants on, 1
Queensland Acclimatisation Society A.R. for	Rhabdomancy, bibliography on, 27
1937-8, 717	Rhagoletis cerasi, 116
Quince-	Rhodesian orchards, 1359
fertilizers, 69	Rhone valley, peach growing in, 1146
in Holland, 36	Rhubarb, linseed oil emulsion increases yield, 51
rootstocks for, 759	Ribes, ancestors of cultivated, 832
in U.S.A., 36	Ricinus in Belgian Congo, 1026
Radiation—	Ringing—
methods of measuring, 23	apple, 1179 carbohydrate in leaves affected by, 72
and plant cytogenetics, 379	kaki to reduce fruit drop, 1364
Radish market diseases, 311	Ripening—
Raisins, production figures, 701	acetylene for, 1471
Ramie, 993, 1387	artificial, 313, 1471
Raphia pedunculata, 1011	ethylene for, 313
Raspberry—	fruit, emanation of growth-inhibiting sub
aphis resistant, 857	stance from, 1459
breeding, 40	fruit emanations, estimation of, 1065
carbohydrate translocation, 1185	maleic acid affects, 1453
Dixie, 439	pears, 306
genetics, (1187)	tomatoes, 313, 525, 526
in Holland, 406	Root—
inbreeding, 40 manurial trials, 829	cuttings, apple propagation from, 45
mosaic, 856, 857	cuttings, fruit tree, 44 diseases in rubber, 279-81, 1424
	GIOGGO ILL LUCCOL, MIC OX, XXMI

Rotenone-

Root (continued)-

growth—	content of derris, 879
apple, 66, 420, 422, 423, 796-8	control of vegetable weevil, (547)
apple rootstocks, 796	toxicity, (547)
coffee, 250, 252	Rubber—
cultivation affects, 66, 798	bark renewal affected by fungicides, 1425
environment and, 796-8	in Belgian Congo, 260
and oxygen in soil, 422	budding, 267-9, 1413-5
peach, 799	budding manual, 1413
sisal, 239, 1389	chemical composition of tree, 1423
soil and, 66	clearing the ground, for, 274
studies, 421	clones, description and identification, 1416
interactions, 403	coffee and tobacco research station, A.Rs.
observation boxes and trenches, 797	for 1936-7 and 1937-8, 715
rot in snap beans, 535	coffee as interplant for, 1418
rot, shoot rot and shanking in tulip, 558	cover crops for, 273, 274
salt migration in, 386	cuttings, 1421
Rootstock—	in dry zones, 634
almond, 839	drying, 332
absorption: vigour ratio in apple, 782	in Dutch East Indies, 261
apple, 45-54, 339, 415-20, 780-9, 795, 796,	fungicides, 1425
1158	in Indo-China, 259, 262
at Blangsted, 780	kok-saghys as source of, 278, 996, (1427)
	lalang grass affects, 272
affects chemical composition, 1158	
cherry, 415, 792, 793, 1162	manuring, 274-6, 636, 1423
citrus, 197, 560, 562, 566, 568, 569, 961, 967,	nutrient element distribution in, 1422, 1423
968, 1536	palm oil diluent effect on bark renewal, 1425
coffee, 251	plant hormones for use in propagation,
deciduous fruit trees, 339	1421
dwarfing, 416, 417	planting in the dry zones, 634
	plants other than <i>Hevea</i> , 278, 996, 1426,
influence on first season's growth, 785	
intermediate, in apples, 418-20	(1427)
internal structure of roots of apple, 784	pollen storage and pollination, 263
Körnik investigations, 779	powder, 333
lemon, 566, 968	propagation, 267-9
at Malling, work on, 415	replanting, 686, 1029
manual on deciduous, 339	root diseases, 279-81, 1424
	rootstocks, 265, 266
peach, 415, 1161	
pear, 47, 415, 790, 791, 795, 1159	seed garden lay out, 1417
pecan, 840	seed germination, 264
plum, 47, 415	smoke house for, 332
pummelo as, 566	Solidago source of, 1426
quince, 759	spacing and thinning experiments, 1419
	stock-scion relations, 265, 635
root's structure, correlation with vigour, 784	
rough lemon as, 566	strip planting with coffee, 1418
rubber, 265, 266	stumped buddings, 268, 269
seedling, 1160	tapping systems of bud grafts, 277
sour orange as, 566	thinning, 270, 1419
vine, 1198, 1199	from tomato skins, 331
walnut, 454	transplanting dormant stumps, 268, 269
	transplanting not by stump method, 1420
Rose—	trunk girth increase, 271
black spot disease, 178	
canker, 949	in U.S.S.R., 996
cuttings, 1316	world production, 700
essential oil hybrids, 950	Russia, best fruit varieties for, 762
growing under glass, 552	Rust—
	apple, 472, 1233, (1234)
growth affected by lime: potash law, 1317	asparagus, 138
mildew, powdery, 948	Rye as green manure for tea, 247
propagation by cuttings, growth stimulants	Trye as green manure for tea, 247
and, 17	C A.: immediantian of 017
rust, 553	Sacaton, Arizona, investigations at, 217
	Sack-band, fauna in weevil, 106
starch content: propagation by cuttings,	Salad crops, manual, 351
1316	Salix spp, Pyrausta nubilalis a pest of, 219
varieties for glass house, 552	Salt—
Rosette or little leaf of fruit trees, 466, 1214,	migration in roots, 386
1215	
	movement, upward and lateral, 1138
Rosette of tobacco, 164, 165	nutrition of higher plants, 390

Sand—	Seedlings—
cultures, 390, 393, 394	development affected by grafting in apples,
dune plants, 748	1155
Sapote, the white, 588	dormancy affected by length of day, 384
Sapucainha, 631, 632	Selenium—
Sarcina lutea, bacterium known to produce	absorption by citrus and grapes, 215
growth stimulant, 19	in soil, 26
Scab, see Apple, etc.	as spray against mites, 215 Self-sterility and cropping, 455
Scale insects— of Black Sea Coast, 218	Sensitometer method of measuring radiation, 23
citrus, 209, 212-4, 218, 583, 584, 586, 1351,	Septoria—
1352	Apii, 456
Lepidosaphes spp., 209	Ribis, 855, 865
on pecan, 486	Sexava spp., 643
San José, 1238	Seychelles Dep. Agric, A.R. for 1937, (726)
Sciadopitys verticillata propagation with aid of	Shade trees, leaf feeding insects on, 117
growth stimulants, (1121)	Sherry, rancio flavour in, 676
Science progress in 1938, 727	Shoeflower, 1052
Scientific Horticulture, 350	Short day treatment in sweet potato breeding, 1361
Sclerotinia spp.—	Shrubs—
acid cherry, 1230	poisonous, eradication, 1001
in Bulgaria, 477	propagation by cuttings, 11
calcium cyanamide for control of, 1229	Sierra Leone Dep. Agric. A.R. for 1937, (726)
fructicola, 1229, 1458	Silicates for citrus and tung, 589 Sisal—
fructigena, 477 laxa, 477	Exp. Stat. Tanganyika, research at, 238
Mali, 477	root system, 239, 1389
in peach, 1458	waste utilization, 240, 1390
in stone fruits, 1231	Size differences, permanence of, in orchard, 1157
Scorzonera tau-saghyz, soil pests of, 278	Slugs, control by meta, 504
Scutigerella immaculata, 105	Small fruit—
Seakale, growth substances and, 362	diseases, market, 1218
Seale Hayne agric. Coll. Dep. Plant Path. A.R.	flora, 1513
for 1937-8, 1540	Small fruits, vines and nuts, 73-86, 439-54, 822-
Sedum—	44, 1185-1205
acre, freezing experiment and hardiness in,	Small holdings in U.K., 342
462 Seed—	Snail—control of giant, 235, 1382
of aromatic plants, photographs, 1309	control by meta, 235, 504, 1382
fermentation to control disease, 456	Sodium—
flower, storage of, 1314	arsenite as herbicide, (503)
germination and dormancy, Boyce Thomp-	chlorate as herbicide, (503), 1252-4
son work, 382	chlorate injury to tomatoes, (503)
germination, growth stimulants and, 1, 3, 9,	fluosilicate and soya bean photosynthesis, 130
10	isotopes for studying salt movement i
germination in Hevea, 264	plants, 1138
germination in lettuce, 517-9	nitrate and sulphate, 463
longevity, 381, 902	Soil(s)—
of medicinal plants, photographs, 1309 number related to fruit drop, 1167	acidity and disease control, 456 and apple root growth, 66
number and fruit weight, 812	citrus, 1334
onion, longevity, 902	deficiency studies, 845
pear, dormancy, 1152	disinfection, 500
pickling agents for vegetable, 173	erosion—
pome fruit, storage, 42	in Jamaica, 1005
of spice plants, photographs, 1309	legislation, 1379
stone fruit, storage, 42	in science and practice, 1142
storage, 42, 772, 902, 1261, 1314, 1520	and fruit growing in New York, 64, 820, 821
testing, 383	heating, 132
treatment—	hop, 930
with auxin, (369)	injection with fertilizer, 67
with bordeaux, 520 with chemicals, 173	management in orchard, 1182
against damping off, 476	moisture— and apples, 808
with growth stimulants, 1, 9, 10	fluctuations, 820
with heat, 456	and lemons, 972
vegetable, 171, 899, 902, 1261	meter, 818
viability, 383	and root growth, 808

Soil(s) (continued)—	Sprays (continued)—
oxygen and root growth, 422	copper, and fruit set, 887
of Palestine, manurial needs, 1356	copper fungicides, 492, 493, (1384)
pecan, 842	copper lime-lead arsenate for apple blosso
and root growth, 66	weevil, 480
selenium in, 26	copper, organic, for Plasmopara viticola, 10
sterilization, 500, 1266	cotton-seed oil-bordeaux, 473, 542
treatment against damping off, 176, 476,	cuprous oxide, 537
864, 1294	dinitro-ortho cresol wash DA, 497, 890
Solidago as rubber plant, 1426	dodecyl rhodanate as ovicide, 543
South Africa—	dolphin alkaloid soaps, 214
Co-op. Citrus Exchange, Director's Rep. for	ethylene dichloride for peach borer, 482
1938, 1541	evaluating orchard, (1260)
Dep. Agric. A.R. for 1937-8, 718	in Holland, 878
fruit exports—	lime-sulphur, 484, 489, 494, 885, 886, (138
citrus for 1937, 559	
deciduous, 1934-5 and 1935-6, 318	machinery, 210, 502, 878 mineral oil, 120
deciduous, 1936-7, 1067	naphthalene derivatives, toxicity, 122
fruit growing in, 32	nicotine, 127, 214, 494
South Australia Minister Agric. A.R. for 1937-8,	nitrophenols, toxicity of, 122
719	in Nova Scotia orchards, 1258
Southern Rhodesia—	nozzles, 502
fruit growing in, 32	oil, 120, 124, 473, 486, 487
tobacco Res. Bd A.R. for 1937, 720	ovicidal, 122, 123, see also particular spray
Soviet Agronomy, new Russian periodical, (1515)	petroleum oil, 885
Soybean—	photosynthesis affected by, 880-3
inoculation, 653	physical properties, 495
in New Zealand, 172	poisonous, prevention of accidents with, 88
in Philippines, acclimatization, 1051	post-dormant combined washes, 495
photoporiodism in (110%)	residues, 125, 126, 494, 501, 884, 885, 125
photoperiodism in, (1125)	
photosynthesis affected by sodium fluo-	(1260)
silicate, 1305	selenium,215
varieties, food value of, 925	spreaders, 124
Spain, orange growing in, 191	superphosphate, 1337
Spectrographic methods, 753, (754)	tar distillate, 494
Sphaeropsis Malorum in Crimean orchards, 471	tetramethylthiuram disulphide, 494
Sphaerotheca—	thiocyanates, 122, 497
Humuli on strawberry, 494, 855, 861	tobacco, 537
pannosa on rose, 948	weed, (503)
Sphagnum, growth promoting properties, 734	winter, affect growth, 888
Spice plants, seed photographs, 1309	winter washes, two new, 497
	zinc-lime, 494
Spices, world production, 700	
Spinach—	Squirrel, the grey, 505
chlorosis, 900	St. Kitts-Nevis Dep. Agric. A.R. for 1938, (1544
manganese deficiency, 513	St. Vincent Dep. Agric. A.R. for 1937, 721
temperature affects photoperiod, 907	Stains, cytological, 336
a virus of winter, 908	Staple crops, West Indian, 1008
Sports—	Statistical method in field trials, 22
apple, 774, 1153	Stem-builders, apple, 418-20
bibliography of literature on bud, 375	Sterilization—
lemon bud, 1333	of fruit cases, steam, 319
pear, 1153	of lettuce seed, 519
Sprays—	Stock(s)—see also Rootstock
N, N amyl benzyl cyclohexylamine, 545	mosaic disease of Matthiola incana, (960)
	scion relations in rubber, 265, 635
aphid, 497	Stomata measuring, (754)
apple, 495, 497, 880-3	
arsenic, 125, 126, 216, 496, 883, 885, 891,	Stomatal movement, 399
1354	Stone fruits—
effect on bees, 127	bacterial canker, 494, 1223
bordeaux, 101, 473, 489, 491, 494, 520, 525,	germination, 41
581, 893, 1303	seed storage, 42
butyl-carbitol-thiocyanate, 890	Stony pit in pear, 1220
citrus, 209, 210, 214-6, 580-4, 1337, 1348,	Storage, 302-318, 654-61, 1054-71, 1443-83
1352, 1354, 1355	Storage—
combined washes, 495, 890	apple, 302, 305, 307-9, 436, 654, 1055-8
commercial fruit tree, 1089	1449-52, 1479, 1480
concentrates, injection of, 889	asparagus, 323
	avocado, 658
copper, for coffee, 626	4,00440,000

Storage (continued)—	Strawberry (continued)—
banana, 1062, 1476, 1477	in Oregon, 469
cacao, 1478	packing, 1059
CO ₂ and fungicides affect, 657	pests, 445, 469, 868
celery, 315	at Plougastel, Finistère, 822
changes occuring during, 1450, 1451	propagation, 445
cherry, 657	in Queensland, 1190
citrus, 312, 578, 1060, 1466-9, 1472-5, 1482	research results, 445
and cooking quality, 323	root aphid, 107
cucumber, in peat dust, 305	in Scotland, 823
	soil pH and, 828
date, 655, 1520	
diseases, 309, 456, 1055, 1056, 1058	'spacing, 446, 447
of fruit by freezing, 661	sprays, 495
of fruits in general, 303	Tarsonemus, 445, 872
gas, 302, 306, 657, 1054, 1450	transportation, 1059
grape, 305, 1460-4, 1481	varieties, 73, 74, 406, 826, 1189
grapefruit, 578, 1472-5, 1482	virus, 444, 445, 861
household, 1448	yellow edge, 861
maleic acid effect in storage, 1453	Styria, fruit growing in, 30
maturity affects, 654, 655	Sub-tropical—
melon, 310, 1465	fruits in confectionery, 326
new methods, 661	fruit species, improvement of, 588
	Sudan Dep Agric A P part II for 1027 (796)
oil wrappers used in, 456, 1055, 1463, 1481,	Sudan, Dep. Agric. A.R. part II for 1937, (726)
1482	Sugar—
orange, 1466-9, 1475, 1482	beet, curly top, 468
ozone used in, 456	beet, various, 898
peach, 1457, 1458	cane pests, 241
pear, 306, 1454	from nipa palm, 335
peat dust as storage medium, 305	world production, 700
pests, 308	Suhuikan mandarin, 193
plum, 1455, 1456	Sukhum introduction nursery, 980
quality affected by cultural practice, 436	Sulphur—
seed, 42, 772, 902, 1261, 1314, 1520	acaricide, a new, 121
tomato, 305, 314	dioxide injury, 1206
tropical fruits, 303	dust and Botrytis on grapes, 474
ultra-violet rays, use in, 304	as fertilizer, 1139
vegetable, 304, 305, 661, 1448	as fungicide, 474
volatile products emanated during, 1065	in plant nutrition, rôle of, 1139
wax for impregnating fruit skins in, 456	Sultana
wax emulsion for dipping fruit, 1480	fruit bud studies, 84, 85
wrappers for use in, 456, 1055, 1463, 1481,	along Orange River, S.Afr., 1196
1483	Sumatra, report of a visit to, 1090
Straits Settlements, A.R. Director Gdns for 1938,	Sunflower, photoperiodicity and plant hormones,
(1544)	7, 13
Straw—	Superphosphate—
frost protection by, 460	for mushrooms, 531
mulch affects potassium in soil, 435	sprays for decreasing acidity in orange, 133'
Strawberry—	Swede—
aphis, 445, 872	brown heart, 511
aphis, root, 107	deficiency diseases, 511, 513
	Sweden—
breeding, 40, 825	
in Canada, 443	agricultural pests, 478
crinkle disease, 861	vegetable experiment station at Alnary
cultivation, 443, 445	A.R. for 1937, 508
diseases, 443-5, 469	Switzerland, apples, cherries, pears, plums and
economics of production, 827	walnuts in, 39
everbearing, 443	
failure, 444	Tachycines asynamorus, (928)
forcing in Japan, 408	Tafo, A. R. Cocoa Res. Stat. for 1937-8, 699
in Holland, 824	Tamarind, the wild, 228
hot water treatment, 456	Tanganyika, Dep. Agric. A.R. part II, 1939, (726
inbreeding, 40	Taproots, coffee, effect of bent, 252
manuring, 443, 447, 829	Taraktogenus kurzii, anti-lepric species, 631, 632
mildew, 494, 855, 861	Taraxacum kok-saghyz, 278, 996, (1427)
mites, 445, 872	Taxonemus hallidus AAE 279
	Tarsonemus pallidus, 445, 872 Tea—
mulching, 447	
nematode, 456	Association, Indian, A.R. for 1937, 703
North Star, 826	in Belgian Congo, 246

Tea (continued)—	Tobacco (continued)—
budding, 1391	rosette, 164, 165
cuttings, 618, 1014	rotation crops for, 163
cyanide affects plants and pests of, 1393	salt needs, 1013
green, composition, 667	seed beds, 165, 536
green manuring with rye, 247	seed as source of oil, 1499
in Malaya at Cameron Highlands agric.	in S. Africa, Virginia, 536
Stat., 245	sprays, 165, 537
manufacture, (668)	transplanting, 1012
manuring, 1019	Virginia, seed supply in India, 994
nitrogen supply for, 1019	Virginia, in the Union of S. Africa, 536
pests, 1393	world production figures, 700
plant hormones and, 1014	Tolulol vapour control of blue mould of tobacco,
plucking, 1017, 1018	538
propagation by budding, 1391	Tomato—
propagation by cuttings, 618, 1014	bacterial canker, 154
pruning, 620	blossom end rot, 1298, 1299
Pyrausta nubilalis, a pest of, 219	blotchy ripening, 526
rye as green manure for, 247	bordeaux injury, 525
selection on Black Sea Coast, 1016	bordeaux spray used on, 1303
spacing and thinning, 1015	breeding, 37
tree oil, 255	experiments at Cheshunt, 526, 1285
vitamin C in, 1392	damping off, 1294
world production, 700	diseases, 1294, 1295
yield affected by height of bush, 619	early ripening character, 918
Temperature—	ethylene treatment, 313
	fertilizers, 526, 652, 1289, 1290
and cropping of apples and pears, 455	flower structure modified by environment
in fruit buds, 1165	919
effect on lettuce seed germination, 518	Fusarium-resistant varieties, 1296
Tephrosia spp. as insecticidal plants, 234, 1518	glasshouse construction for, 1286
rerapbast fibre from Artocarpus elastica, 237	growing in cloth houses, 1292
Terpur, a soil disinfectant, 500	growing on a mixed farm, 510
Tetranychus telarius pest of hop, 543, 937	and growth stimulants, 356, 364, 1293
Theobroma Cacao, see Cacao	hybrid vigour, 917
Thermostat, the Wädenswil, 400	
Thielaviopsis paradoxa in pineapple, 660	in Illinois, (1304) leaf mould, 155, 1300,
Thinning—	leaf spot disease of tobacco on, 162
apple flowers, 1178	light effect on, 526
apple fruit, 436	maturity index, 1288
plums, 819	metabolism, 1290
and storage qualities, 436	nailhead spot, 1301
tea, 1015	nutrition, 1289, see also fertilizers
Thomasiniana oculiperda, 775	
Thrips—	nutritional deficiency symptoms, 1291 pests, lepidopterous, 156
in California, 869	
control in greenhouse, 545	potash and fruiting, 526 potassium affects metabolism, 1290
onion, 516	psyllid control, 527
Fimothy grass, manganese deficiency in, 513	
Tobacco—	ripening, bordeaux affects, 525 ripening, blotchy, 526
by-products, 1081	ripening, ethylene for, 313
damping off, 617	roots, growth of excised, 1108
diseases, 162, 164-8, 536-40, 617, 1306	root nematodes, (547)
downy mildew, 166, 537, 538, 1306	rubber from skins of, 331
exports from U.S.A., 1081	seedling, measurement of assimilation and
fermentation, (173)	translocation in, 524
flea beetle, (547)	spacing experiments, 652
furnace, the Gundry, 1508	spotted wilt, 1297
hornworm and tomato worm on, (547)	storage, 304, 305, 314, 1064
in India, seed of Virginia, 994	transplanting after dipping in wax emulsion,
leaf spot disease, 162	1480
mosaic, 167	unfruitfulness and male sterility, 920
nutrient deficiencies, 161	varieties, 151-3
pests, 536, (547)	vernalization, 916, 1287
Res. Stat. Coffee, Rubber and, A.Rs. for	virus diseases, 162, 922, 1297
1936-7 and 1937-8, 715	vitamins in, 1446
Res. Stat. for Vorstenland, A.R. for 1937-8,	watering methods under glass, 921
F10	warm on tabassa (547)

Topworking—	Tung oil (continued)—
apples, 1154	hybrids at Batum, 222
citrus, 1339	in Morocco, 981
by frameworking, 407, 413, 414	in N. Zealand, 221, 982
fruit trees, 44, 1154	nuts, processing, (1084)
pears, 778	pests, 987
Toxoptera aurantiae, 209	planting in British Possessions, 223
Tractors, diesel, 751	Pyrausta nubilalis a pest of, 219
Tradescantia, growth stimulants and growth of,	silicates for, 589
3, 367	Turmeric, a new polishing machine for, 256
Training—	Turnip germination, 509
fruit trees, 407, 1173	Typhophorus viridicyaneus, 614
logan- and blackberries, 440	
Translocation in tomato seedlings, 524	Uganda Dep. Agric, A.R. for 1937-8, (726)
Transpiration—	Ultra violet light
absorption ratio in lemon cuttings, 970	effect on cinnamic acid, 1107
affected by bordeaux, (893)	and storage, 304
and colour of leaf, 939	Uromyces Fabae, 924
of deciduous fruits, 807	Uzbekistan, fruit growing in, 757, 758
orange leaf, 971	U.S.S.R.—
Transplanting—	greenhouse heating, 131, 207
growth stimulants and, 360	horticultural institutes, 28
tomato plants after dipping in wax, 1480	viticultural advisory centres, 28
young fruit trees, 1180, (1184)	wild fruit reclaiming in, 29
Transport—	
to market of fruit and vegetables, 316	Vancouveria, a monograph on, 555
vegetable, ice used in, 317	Varieties, fruit—
Traumatin, a wound hormone, 368	in Holland, 406
Tree—	Russian, 758, 762
building, 807	Swedish, 763
fruits bulletin, 344	in Uzbekistan, 758
Tree fruits, deciduous, 28-72, 406-38, 755-821,	Vegetables, stimulants and fibres, 130-73, 507-4
1143-84	894-938, 1261-1313
Trichoderma Koningi controls Phytophthora	Vegetables-
parasitica, 1302	canned, mineral content, 1494
Trinidad—	canning, 322, 1494
Imp. Coll. trop. Agric. A.R. for 1937-8,	cultivation in Scotland, 546
(726)	diseases, 311, 1266
sugar cane investigations A.R. for 1938,	drugs, 1080
(726)	experiments at Alnarp, 508
grapefruit in, 192	frozen, enzyme activity, 666
Tropical areas 227 201 600 52 1002 52 1278 1442	germination, 509, 899
Tropical crops, 227-301, 609-53, 1002-53, 1378-1442	growing, a Russian manual, (1515)
Tropical—	in Japan, 408
fruits, storage, 303	juices, 1079, 1085
plants, literature on, 609	and lime, 896 manuring, 69, 896, 1262-4, 1267, 1280
and sub-tropical fruits, 1325	marketing in N. York, 1068
and sub-tropical fruitgrowing, 282 Truck—	market diseases, 311
crops in Hawaii, 650	pests, (547) pot experiments, soil medium for, 894
Exp. Stat. Charleston, S. Carolina, snap bean trials, 535	
Tuba root, see Derris	potassium affects growth, 1264 root, in Norway, 1265
Tulip—	seeds, 509, 899
breaking in, (1324)	seeds, pickling agents, 171
diseases, 558, 1321	seeds, storage, 1261
fringed and parrot, morphology, (960)	storage, 304, 305, 661, 1448
Kirton experiments, 182	supplies in 1938, 1516
nutrition, 1320	taste affected by manuring, 1262
root rot, shoot rot and shanking, 558	transport, 316, 317
Tung oil—see also Aleurites	for the tropics, 1442
caryological description, 220	vitamins in, 1443-5
composition, (1084)	weevil, (547)
diseases, 986	Vegetative propagation see Propagation and
in drying oil market, (1084)	particular methods
in Dutch East Indies, 983-5	Venturia inaequalis, 97, 98, 473, 489, 494, 86:
fertilizers, 1363	1140, 1228
frenching in, 224	Verderame sulphur dust, 474
	. I do wind output a doo, I v

ernalization—	Viticulture (continued)—
marrow, 916	fruit set in Muscat of Alexandria, boron
potato, 514	affects, 836
tomato, 916, 1287	Fusicoccum viticolum, 475
rticillium wilt of hop, 855, 935	Gamay vines, 448
etch seed germination, growth stimulants affect,	under glass, 1197
10	grafting, 1, 5, 464
neland, Ont., hort. exp. Stat. A.R. 1937-8, 722	grape—
olets—	diseases, market, 1218
commercial cultivation, 554	
	export industry, Australian, 83
nematode controlled by heat, 456	packing, 1203
rginia tobacco—	pip oil, 1498
seed in India, 994	production figures, (701)
in Union of S. Africa, 536	storage, 305, 1460-4, 1481
rus—see also Diseases, virus	utilization, 1461
cassava, 243, 244, 651, 1518, 1519	wastage, 1462-4
insect vectors, 857, 1219, 1518, 1519	growth stimulants, use of, 1, 5, 834, 1200
movement in plants, 1103	hemicellulose, vine, carbohydrate meta-
in peach, 456	bolism of, 449
in pear, 1220	in Holland, 406
in potato, 468, 515	in Hungary, 837
in raspberry, 96	in Japan, 408
in strawberry, 444, 445, 861	lightning strike, 852
in sugar beet, 468	Limburger vines, 448
tobacco, 162, 164, 165, 167 tomato, 162, 922, 1297	manuring, 69, 82, 470
tomato, 162, 922, 1297	mildew, 79, 80, 101, 1140, 1221
vectors, 95, 857, 1219, 1518, 1519	mildew, powdery, 1140, 1221, 1226
vitamin C may affect resistance to, 515	mites, 215, 479
yellow blotch curl of raspberry, 96	mould spread, 470
tamin—	in Murrumbidgee Irrigation Areas, 77
A, B, C, D, E, storage affects, 1444	Muscat of Alexandria, fruit set in, 836
B and root growth 372	nitrogen and mould, 470
C	nutrition affects wood maturity and roots,
in Actinidia kolomicta and other species,	82
75	origin and spread, 1192
extraction, 370	pests, 479, 684, (893)
in fruits and vegetables, 1443	Phylloxera—
light influences, 1124	breeding against, 79, 1140
in orange, seasonal changes, 1447	biotypes, change in virulence of, 109
in oranges, S. African, 1060	injury from root form, 110
in notate 515	pest, 479
in potato, 515	Pinot vines, 448
storage affects, 1445	
in tea, 1392	Plasmopara viticola, see mildew
in tomato, 1446	pollen test media, 835
and virus resistance, 515	powdery mildew, 1140, 1221, 1226
ticulture—	propagation, 1, 3, 5, 464, 1200
anthracnose, 1221	in Queensland, 1195
in Arizona, 833	red grape vines, 448
in Arkansas, 1193, 1201	reisig disease, 465
arsenic poisoning in, (1260)	root growth affected by nutrition, 82
Australian table grape exports industry, 83	rootstocks, 1198, 1199
bacterial blight, 1224	Sacaton, Arizona, investigations at, 217
in Belgium, 1197	shoots, enzymes in, 451
	shoots, fertility of secondary, 81
boron deficiencies, 836	
Botrytis cinerea on grapes, 474	shoots, specific weight, 450
breeding, 79, 80	in S.W. Africa, 1196
in California, 78	storage of grapes, 305, 1460-4, 1481
callusing, 452	sultana, fruit bud studies, 84, 85
callusing, 452 cuttings, 3, 5, 1200	sultana in Orange River District, 1196
Dactylosphaera vitifolii, breeding against,	supports for vines, 1202
1140	table grapes, see grape
dead arm diseases, 475, 1221	thrips, 479
diseases of grapes, 1221	in Turkey, (838)
	varieties in Arizona, 833
diseases of grapes, market, 1218	varieties in Arkansas, 1193, 1201
drop berry, 1464	
enzymes in shoots, 451	water supply affects wood maturity and
in Florida, 1194	root growth, 82
frost measures and damage, 460	wood maturity, 82

Walnutat East Malling, 454 flower morphology, 453, 1204 frost injury, 454, 851 frost causes leaf malformation, 851 in Holland, 406 mites, (1355) pH for, 1336 propagation and rootstocks, 454 in Switzerland, 39 varieties, 39, 406, 454 Washington Stateagric. Exp. Stat. Pullman A.R. for 1937-8, 723 hort. Assoc. Proc. for 1938, 724 Water, conditioning, hard, 401 Watercore in apples, 1213 Watercress manuring, 1279 Watercultures, 390, 393, 394, 649, 741, 742, 1127, culture, pineapple experiments in, 649 divining, bibliography, 27 melon in Japan, 408 melon pest, Etiella zinakinella, 113 melon rot, (893) plant growth in, 1334 table level and bulb growing, 185 grafting, 1156 as preservative for fruit skins, 456, 1480 Weather and fruit crops, 455 Weed(s)chemical control, (503) killers, (503), 1252-4 prickly pear, 1357 of sub-tropics, (1377) Weevil sack band, fauna in, 106 Wenatchee, fruit trees in, 766

Wild fruit reclamation in U.S.S.R., 29 Willow manuring, 752 Winds, katabatic, and frost damage, 87 CO₂ detection in, 674 iron in grapes and, 673 making, 672 natural aging, 1489 nitrogen content, 675 production figures, 701 sugar: alcohol ratios in, (677) Winter injury, see Frost damage Woody plants, low temperature injury to, 850 Woolly aphis, 108, 485, 497, 870, 871, 1140, 1239, 1240, 1535, 1540 Wound(s)influence of growth stimulants on, 735 hormone, traumatin, 368 Wrappers for stored fruit, 456, 1055, 1463, 1481, 1482 Wye, journal of the S.E. agric. Coll., 725 X-rays, seed pests detected by, 104 Xylem, the path of salt movement, 1138 Xylol vapour control of tobacco blue mould, 538 Yakima, fruit trees in, 765

Yakima, fruit trees in, 765 Youngberry, 440, 830, 831

Zanzibar Dep. Agric. A.R. for 1938, 1543

Zebrina pendula, freezing experiment with, 462

Zinc—
damping off control, 476
deficiency in citrus, 575, 1241

deficiency in citrus, 575, 1241 -lime mixture as fungicide, 494 and little leaf, 466 as plant nutrient, (1133)